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# Body image and appearance management among older married dyads: factors influencing body image in the aging process

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**Body image and appearance management among older married dyads:**

**Factors influencing body image in the aging process**

**by**

**Keun Young Oh**

**A dissertation submitted to the graduate faculty**

**in partial fulfillment of the requirements for the degree of**

**DOCTOR OF PHILOSOPHY**

**Major: Textiles and Clothing**

**Major Professor: Mary Lynn Damhorst**

**Iowa State University**

**Ames, Iowa**

**1999**

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This dissertation is dedicated to my mother and the memory of my father  
who made a larger life possible for me.  
And for my husband, my son, my sister, and my brother  
who are the most important people in my life.

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## ABSTRACT

This study examined how older married persons' body image related to their engagement in appearance management practices and the personal and relational factors influencing the formation of body image among older persons. Various appearance management practices -- exercise, dieting, use of anti-aging products and techniques, daily grooming, and apparel-related behavior -- were studied. Personal and relationship factors explained for influence on older persons' body image were aging-related physical changes, health, marital relationship, cognitive age, and moods. In addition, coorientation effects in the perception of attractiveness in older marital dyads were investigated.

Data were collected via a mail survey of older married couples residing in three metropolitan areas in Florida. Data from 94 married couples who were 60 years and older were entered into data analysis. The average length of living with a current spouse was 43.6 years.

Results indicated that men had a more positive attitude about and were more satisfied with their bodies and appearance than were women, while women engaged more in appearance management practices such as dieting, use of anti-aging products and techniques, daily grooming, and apparel shopping and expenditures than did men. Both men's and women's body image were related to their engagement in exercise, dieting, use of anti-aging products and techniques, and apparel expenditures. Among factors examined, aging-related physical changes, effect of physical changes on the self, self-assessed health, and evaluation of spouse's attractiveness, and perceived attractiveness (one's perception of the other spouse's appraisals of his or her attractiveness) were found to be significantly related to the body image of older men and women.

Older husbands' self-assessment of appearance was positively correlated with wives' self-assessment of appearance. Husbands' actual evaluation of their wives' appearance affected wives' self-assessment of their own appearance (self-other agreement), and wives' actual evaluation of their husbands' appearance influenced husbands' self-assessment of their own appearance (self-other agreement). Also, husbands' evaluation of their wives'



appearance corresponded to wives' evaluation of their husbands' appearance (reciprocity). These results indicated that the agreement in two spouses' self-assessment of appearance existed because the two coorientation effects (self-other agreement and reciprocity) occurred in two partners of marital dyads.

## **CHAPTER 1: INTRODUCTION**

With the expectation that by the year 2010 one in every seven Americans will be 65 or over (Moschis, 1996a), marketers' interest in the characteristics of older adults is flourishing. Due to the increasing population and sizable discretionary incomes of these older persons, marketers and researchers have paid more and more attention to the older persons' lifestyle and consumption patterns (Longino & Crown, 1991; Schewe, 1991). Older people have become more concerned about how to stay healthy, active, young, and attractive in their later years as well as how to live a long life. Their increasing efforts to search for a fountain of youth are reflected in development and popularity of exercise and fitness equipment, dieting programs and weight-control products, anti-aging drugs and cosmetic products, and cosmetic surgeries especially designed for making the aging process a little less traumatic and noticeable (Braus, 1995; Johnson, 1998; Millett & Kopp, 1996).

During the aging process, older persons experience physical changes that may have significant impact on how they perceive their bodies and appearance. The way older persons feel about their aging bodies or appearance may influence their behavior to manage their aging bodies and appearance. Unlike the ever growing investment in developing anti-aging products or programs, little effort has been made to examine empirically how older persons' sense of body image influences their decisions to use anti-aging products or to engage in exercise or dieting in order to control their aging bodies and appearance. In this study, older persons' sense of body image was examined in relation to engagement in appearance management practices. Also of interest in this study was exploration of how older persons' body image was related to various factors relevant to the aging process.

### **Body Image and Appearance Management Practices**

Thompson and Hirschman (1995) stated that "...consumers' experiences and perceptions of their bodies should have profound influences on their consumption behaviors and the meanings attributed to products and services relevant to body image issues" (p. 141). Although the aging process accompanies dramatic changes of the physical body, concepts

such as body, body image, appearance, and physical appearance have been largely ignored by researchers in social gerontology (Öberg, 1996). Consequently, any influences of body image or body concept of older people on their consumption behaviors directed at altering or enhancing their sense of body image or the body have not been explored extensively. Among various consumption activities, apparel, food, and exercise related consumption were found closely interrelated with body image and appearance in a qualitative study by Thompson and Hirschman (1995). In the present study, consumption activities intended to change or improve one's body or body image are referred to as *appearance management practices*.

Body image has been variously linked in the literature with diverse terms such as body schema, body concept, perceived body, body cathexis, body esteem, physical self-concept, self-image, or body attitudes (Janelli, 1993). Some of the confusion in terms can be contributed to the fact that body image is a diverse and multifaceted concept (Fisher, 1990) which consists of perceptual and attitudinal components (Cash & Brown, 1987; Keeton, Cash, & Brown, 1990). The perceptual component refers to the direct mental representation of the physical appearance of the body and is measured by observational methods and projective techniques (Fawcett & Frye, 1980). The attitudinal component delineates a broad spectrum of feelings, attitudes, and emotional reactions toward the body and physical appearance and is measured by interviews and attitude scales (Fawcett & Frye, 1980).

The term *body image* as used in the present study will reflect evaluative and attitudinal components and, more specifically, refer to feelings about and satisfaction with the body and physical appearance, the degree of cognitive importance placed on physical appearance, and the degree of orientation to appearance-related activities (Brown, Cash, & Mikulka, 1990).

In the dualistic perspective prevailing in Western culture in which the body is seen as a material object distinct from one's essential self, one's desire to control the body as an object is embedded in significant personal meanings, anxieties, and motivations to choose certain products, to buy specific styles of clothes, and to engage in body-focused consumer practices, such as extensive dietary and exercise regimens (Thompson & Hirschman, 1995). Aging deviates the body from socially accepted standards of beauty in U.S. culture and

eventually deteriorates the body from youthful condition, making older persons' desire to resist the aging process seem self-evident (Thompson & Hirschman, 1995). Older persons' consumption activities to manage their aging bodies and to reconstruct a youthful appearance may be the expression of efforts to reduce the gap between youthful inner self and the aging signs of the body. The culturally pervasive desire to control the aging signs of physical appearance has been transformed into consumption of hair-color products, hair-loss remedies, skin-care products, cosmetics, exercise equipment, diet pills, and finally cosmetic surgery by the aging population (Barringer, 1992; Beck, 1992; Brownell, 1991; Greider, 1996; Harris, 1994; Jackson, 1992; Scott, 1993; Wolf, 1991).

Although body changes associated with aging happen to everyone, the ways older individuals perceive these changes of their bodies may vary depending on subjectively construed experiences of aging. Appearance management practices to cope with the aging process may be motivated and influenced by older persons' subjective experiences of aging, mostly perception of bodily changes rather than by the actual changes of the body.

However, previous studies that looked at the relation between body image and appearance management practices among older people are rare. Few researchers have examined the relationship between aging-related concerns about appearance or dissatisfaction with the aging body and older adults' involvement in dieting (Gupta, 1995; Gupta & Schork, 1993; Stevens, Kumanyika, & Keil, 1994) or exercise (Abadie, Schuler, Hunt, Lischkoff, Hallinan, & Wang, 1996; Benedict & Freeman, 1993; Hallinan & Schuler, 1993). However, older persons' efforts to manage their bodies in a desirable shape or to retard the aging process can be converted into diverse appearance management practices other than dieting or exercise. Little attention has been paid to the relation between body image of older persons and their involvement in various appearance management practices such as consumption of anti-aging products and techniques, daily grooming products, and apparel.

For older people, body image may reflect their continuous lifelong efforts to improve or to manage their bodies and appearance as well as cognitive and affective evaluations of their aging bodies. Thompson and Hirschman (1995) described older persons' bodies as "living records of their life histories" (p.151). Further, older persons' body image may

manifest important meanings about their personal worth, their positions in social relationships, the relationship with significant others, their lifestyle, and the degree of control they have had over their lives.

### **Factors Influencing Body Image in the Aging Process**

When the body changes with aging, body image has to adapt to these bodily changes, too. Middle and older age brings body deterioration as well as changes in appearance (Adams, 1985; Altamore, 1993; Briggs, 1990; Colarusso & Nemiroff, 1981; Johnson, 1985; Murray, 1972; Nemiroff & Colarusso, 1985a). Physical changes associated with aging are, for example, reduced energy, weight gain, higher fat-to-body weight ratios, shifting of muscle and fat distribution, thinner hair, drier skin, wrinkles, loss of teeth, reduction in vision and hearing, and shrinking height (Barash, 1983; Kligman, Grove, & Balin, 1985; Tierney, 1987; Verbrugge, 1979; Whitbourne, 1985). Health problems may further deteriorate condition of the body.

It is undoubted that these changes go against a prevailing standard of attractiveness, especially in Western culture, where pleasing and youthful looks and a physically fit body are the standards for beauty (Cockerham, 1991). How does the aging process affect the body image of older people? If looking attractive, youthful, and healthy is so desirable, older people are obviously at a distinct disadvantage. People experiencing the aging process often feel stigmatized by their aging appearance and make efforts to maintain health and youthfulness and to deter the effects of aging because people are anxious about aging, the vulnerabilities of failing health, and the potential loss of independence as well as the loss of attractiveness (Goin, 1994).

While there has not been any longitudinal study extensively looking at body image, the results of cross-sectional studies indicate that body image stays important across the life span (Berscheid, Walster, & Bohrnstedt, 1973; "Body Image", 1997; Cash, Winstead, & Janda, 1986; Hatfield, 1986). A stereotypical expectation in Western cultures is that body image of the elderly should be negative as aging produces unwanted changes of the physical body and appearance. Getting older, however, does not necessarily induce negative, poor, or

dissatisfied body image. The results of national surveys by *Psychology Today* in 1985 and 1997 showed only slight increase in dissatisfaction with the body among middle and old aged women ("Body Image," 1997; Cash et al., 1986). In the same vein, Berkun (1983) interviewed sixty physically and mentally healthy, White, suburban women aged 40 to 55 to explore the perceptions of their changing appearance and their attitudes toward aging. On the whole, these women were positive about their changing appearance, although they all agreed that a negative stereotype existed about aging appearance and about middle and old age. Berkun also found that these women's perceptions of their changing appearance varied depending on marital status or relationships and occupational status.

These findings provide information against the stereotype that aging results in a negative body image. Perhaps, during the aging process, people shift their standards or expectations of attractiveness to adjust to declines in physical appearance, or there may be cohort differences in that older generations may hold more generous standards of beauty than do younger ones (Cash et al., 1986; Janelli, 1986a). Moreover, as people age, they may realize that personality and morals are more important than how they look, which may help them adjust to the aging process ("Body Image," 1997). White (1988) found that people tend to maintain relatively youthful images of themselves as long as they can and deny the physical evidence of aging as long as possible. Therefore, older people's body images do not necessarily suffer greatly from aging appearance.

The common belief that aging threatens the integrity of the existing body image, especially for women, is not supported by scientific hard data, but seems to be based on social stereotypes or stigma attached to middle or old age. The results of a few studies which found declines in body image, body image disturbance, or body dissatisfaction in an aging population need some cautions when generalized or interpreted. Schwab and Harmeling (1968) reported that aging develops more negative body image among older medical patients versus young patients. Other studies which found a negative impact of the aging process on body image relied on subjects' human figure drawings to measure body image. This method is a projective technique of which validity as a body image measure is highly questionable (Janelli, 1986b). There is a need to examine how healthy older persons perceive their aging

bodies. If age, especially chronological age, does not explain changes in the body image of an aging population, then other factors which might influence older persons' perception of aging related changes in the body need to be studied also.

Body image is influenced by many factors, including interpersonal factors, individual factors such as mood, and cultural factors ("Body Image," 1997). A few studies have examined the relationship of physical attributes such as weight to body image (Brown, Cash, & Noles, 1986; Cash & Hicks, 1990; DelRosario, Brines, & Coleman, 1984; Keyes, 1980; Landau, 1989; Tucker, 1982). Also, sociocultural factors like gender, social class, ethnicity, culture or subculture have been studied with regard to their influences on body image (Fallon, 1990; Parker, Nichter, Nichter, Vuckovic, Sims, & Ritenbaugh, 1995). However, most previous studies have focused on adolescents' or college students' body image and its determinants. Less is known about older people's body image and the social factors which mediate the effects of physical changes associated with aging on older people's self-perception, especially their body image. It was intended to find the factors influencing body image among older couples in this study. Among the many factors which might influence body image, marital relationship and spousal influence, cognitive age, and various mood states older people may experience were examined as well as physical and health factors in this study of older persons' body image and engagement in appearance management practices.

In particular, spousal influences on perception of the body and appearance were examined. According to symbolic interaction theory, evaluation of the self is in part based on interaction with others and, more specifically, interpretation of others' judgements (Mead, 1934). Older persons' sense of body image or perception of their aging bodies may be influenced by their perception of how significant others such as a spouse view their aging bodies and appearance. When a couple has been married for years, one spouse's self-perception of body image may mirror the accumulated understanding of the other spouse's appraisal of his or her body and appearance. Interaction about the body happens to both spouses simultaneously and shapes their body images. Unfortunately, relational effects on body image have barely been studied for any age group. To explore spousal interaction in

perception of the body and appearance among older married couples, a model was developed to test spousal coorientation in their perception of the body and appearance within the framework of a social relations model developed by Kenny (1988).

### **Purpose**

The aging process has been incautiously stereotyped to result in negative body image and dissatisfaction with the aging body and appearance. Various researchers have worked to understand older persons' perceptions and feelings concerning their aging bodies (e.g., Esberger, 1978; Gee & Kimball, 1987; Janelli, 1986a, 1993; Loomis & Thomas, 1991; Ross, Tait, Grossberg, Handal, Brandeberry, & Nakra, 1989; Van Deusen, Harlowe, & Baker, 1989). Although various aspects of body image were focused upon across studies, researchers generally have failed to find significant declines in body image as a result of aging. Instead, people experiencing changes of the body and appearance associated with aging were found to make considerable efforts to maintain their youthful bodies and appearance and disguise signs of aging (Biggs, 1997; Featherstone & Hepworth, 1991; Freedman, 1986; Hennessy, 1989).

Physical and psychological changes older consumers perceive as they age may create new wants and needs to alter or maintain their bodies and appearance. Changes of physical appearance and body image are closely related to appearance management practices (Thompson & Hirschman, 1995). During the aging process as aging-related physical changes occur in the body and appearance, older persons, especially women, see their bodies moving further away from youthfulness or healthiness, conditions required for achieving attractiveness in contemporary U.S. society. As a result, older persons may be concerned about their aging bodies and body image and want to challenge the aging process by engaging in various appearance management practices. However, little is known about the relationship between body image and its consequential influences on appearance management practices of older persons.

To understand the effects of body image on older persons' behavior, it is necessary to study the factors influencing the formation of body image during the aging process. While



the aging process happens to everyone, each older individual may respond differently to the effects of aging on the body and appearance. Due to the heterogeneity of the aging population (Hall, 1980), the impact of aging processes on body image among older persons may vary depending on their subjective experiences of aging. Less is known about the factors influencing older persons' body image.

The purpose of this study is to examine whether body image possessed by aging persons impacts their appearance management practices to enhance their body attractiveness and to control their aging bodies. In particular, this study focused on exercise, dieting, use of anti-aging products and techniques, daily grooming, and apparel expenditures as appearance management practices by older persons. Also, of interest in this study was exploration of various factors which have impact on older persons' body image. The factors examined in this study included aging-related physical changes of physical health, relationship with a spouse, cognitive age, and psychological moods. Among the factors influencing body image, possible influences of the significant other of spouse received further examination. Based on a social relations model (Kenny, 1988), a model of spousal interdependence in the perception of the body and appearance among older married dyads was examined. Whether older married partners agree on their self-perception of physical appearance and, if so, whether their correspondence could be explained by coorientation effects between two spouses in evaluating their spouses' physical appearance was the focus of model testing.

### **Definitions**

**Body Image:** the feelings about and the satisfaction with the body and appearance, the importance placed on physical appearance, and the attitudinal involvement or intention to engage in appearance-related behavior (Brown et al., 1990).

**Appearance Management Practices:** activities intended to improve, to maintain, or to alter the body or body image.

**Exercise:** regular, patterned, leisure time activities pursued to achieve desirable outcomes, such as improved level of general health and physical performance or improved body shape (Bouchard & Shephard, 1994).

**Dieting:** a set of current behaviors to restrict food intake in order to lose or maintain weight (e.g., meal skipping, decreasing foods, selecting low-calorie over high-calorie foods) (Martz, Sturgis, & Gustafson, 1996).

**Anti-Aging Products and Techniques:** Products or procedures specifically used to reduce the effects of aging or to disguise the aging signs of the body and appearance.

**Daily Grooming:** daily routine activities to get ready for a typical day.

**Cognitive Age:** “a person’s self perceived age based upon his/her ages of-me (Feel/Age, Look/Age, Do/Age, and Interest/Age) as determined by age-decade reference groups” (Barak, 1987, p.124)

**Mood:** a state of affect or emotion.

**Coorientation:** interdependence between two persons’ attitudes or perceptions (Newcomb, 1953).

### **Dissertation Organization**

Following this introduction, the dissertation proceeds to Chapter 2 where previous studies regarding the main variables explored in this study were reviewed. Based on the previous finding of related studies, research hypotheses were developed. Chapter 3 explains the research methods used to arrange and conduct the study including questionnaire development, mailing procedures, and methods for analyzing data. Chapter 4 includes the results of preliminary and primary data analyses and the discussions of the findings including hypothesis tests. Preliminary data analysis included response rate, respondents demographics, factor analysis, and correlation analysis, while primary analysis consisted of *t* tests, multiple regression analyses, and structural equation modeling. Finally, Chapter 5 presents a summary of the study, implications for understanding the perception of the body and appearance among older people and the activities they engage in to reestablish their self concept, limitations, and suggestions for further research.

## **CHAPTER 2: LITERATURE REVIEW**

Literature that pertains to how older persons' body image responds to the aging process and relates to their engagement in various appearance management practices including exercise, dieting, use of anti-aging products and techniques, daily grooming, and apparel-related behavior was reviewed. Various factors that may have impact on older persons' body image were also discussed. Especially, physical changes related to aging, health, marital relationship, cognitive age, and various mood states were examined in their relation to body image among older persons to generate research hypotheses. Finally, to understand interdependence in the perception of physical appearance in marital dyads, previous studies relevant to interpersonal relations and perception in dyads were reviewed. A section containing the research hypotheses examined in this study follows.

### **Aging Body, Body Image, and Appearance Management**

Kreuger (1989) stated that physical changes of the body associated with the aging process most likely have an effect on one's body image or the mental perception of the body and its organs. Aging-related physical changes may lead older persons to feel growing discrepancy between how old they look and how old they actually feel. Appearance has been central to how women and, to lesser degree, men evaluate themselves and are evaluated by others (Bartky, 1988; Chernin, 1981). Physical attractiveness often translates not only into feelings of self-worth but into success in interpersonal relationships and professions (Freedman, 1986; Morgan, 1991). Older persons may be particularly susceptible to developing problems in body image because physical changes associated with the aging process generally are perceived as socially undesirable and unattractive. According to Nemiroff and Colarusso (1985b), the conflict older persons may experience during the aging process between the aging body and the young inner self could lead to a reshaping of body image and be translated into behavioral activities to help them adjust to these inevitable changes.

In a study examining how people evaluated drawings of human faces categorized as young, middle-aged, and older, Wernick and Manaster (1984) found that young (aged from 19 to 30 years) and older raters (aged from 56 to 88 years) evaluated young faces as most attractive and old faces as the least attractive. The results of this study support a common belief that growing old is associated with loss of physical attractiveness.

From interviews with healthy men and women in their fifties and seventies, Hennessy (1989) found that both men and women were affected by aging-related physical changes, especially in appearance, and were involved in activities related to caring for or controlling their bodies and appearance. Women, however, tended to be more aware of the damage the aging process had on their appearance than were men.

Ross et al., (1989) reported that older subjects (aged from 62 to 79) were more conscious of changes in their external physical appearance like wrinkling of the skin or loss of hair but were more positive in their self-evaluation of the body than were younger subjects (aged from 17 to 28). Older persons' enhanced self-consciousness of changes of external appearance may reflect their internalization of social stigma that older persons are viewed as less attractive than young and middle-aged persons and aging appearance is socially undesirable (Ross et al., 1989). However, the researchers suggested that more positive evaluation of the body among older subjects may have been a result of selection procedures that ensured that only healthy subjects participated in their study. The healthy older subjects have positively compared their own overall body conditions with the stereotype of the elderly which is frail and inactive. These results need to be interpreted with some caution. First, the measures used in this study were not clearly defined, which leads to validity problems. For example, one's evaluation of the body may vary depending on what aspect of the body is considered. Second, differences between older subjects and younger subjects may represent a generation gap; these two generations may live with different standards for evaluation of their bodies. Further research is needed to clarify the issues related to body image among older people.

While physical changes of the body and appearance accompanied with the aging process are quite universal and irresistible, the ways older people react to or cope with these

changes vary depending on how they are concerned about and view their aging bodies and appearance (e.g., Hennessy, 1989). However, little is empirically known about how diverse groups of older persons perceive or feel about their aging bodies and appearance and how this is related to their efforts to control, maintain, or improve their aging bodies or appearance. The degree to which older people are satisfied with their bodies may have profound implications for their decisions to engage in appearance management practices such as how and what to eat, whether to exercise, what to wear, whether to have plastic surgery, or whether to use anti-aging products or aging concealment techniques.

Regarding body image and appearance management, Domzal and Kernan (1993) discussed that depending on how people regard their bodies, their pursuit of a better appearance varied considerably, and these differences had a significant effect on consumers' reaction to attractiveness-related products and services. For example, people who believe that they are very much represented by the body and that their bodies exist only for themselves (the most fundamental sense of narcissism), may relentlessly try any product and service that might make them glamorous, alluring, charming, fascinating, or beguiling. On the other hand, people who believe that they are closely associated with their bodies but that their bodies are a medium or symbol through which members of a society converse (the body as instrumental for social expression), may play with attractiveness-enhancing products such as dress, cosmetics, and adornments to attract attention of others, to make a statement about themselves, or to make themselves physically attractive for some occasion. Overall, Domzal and Kernan's attempt to form a taxonomy of orientation toward the body and appearance management is hypothetical rather than empirical. Further research is needed to develop appropriate measures reflecting people's body experience and how they adorn themselves using appearance-related products or services (Domzal & Kernan, 1993). When aging-associated changes happen to older persons, individual subjective experience each older person has with his or her body may have different impact on their involvement in appearance management practices.

With regard to the relation between the attention paid to the body and appearance management practices, Kelson, Kearney-Cooke, and Lansky (1990) found that female college

students who felt greater concern about their appearance spent more time on a variety of beautification techniques such as styling hair, dying or curling hair, applying make-up, wearing perfumes, exercising, or dieting. This relationship needs to be explored with other populations such as older persons.

Harris (1994) found that people who evaluated the signs of aging such as gray hair, balding, facial wrinkles, wrinkled neck, and change in body shape as less attractive were more likely to consider using aging concealment techniques such as coloring hair, wearing a wig, having hair transplant or plastic surgery, or lying about their age. However, this study failed to reveal a relationship between older persons' subjective evaluation of their bodies where these bodily changes took place and their likelihood of using aging concealment techniques. Although the influence of one's experience with the body on his or her appearance management or impression management has been suggested in previous studies with other populations, few studies have been conducted that looked at the relation between body image and engagement in appearance management among older persons.

#### **Gender differences in body image and appearance management practices**

Studies comparing body image between older men and older women are limited and the results have been inconsistent. Janelli (1993) conducted an exploratory study to determine if any differences in body image exist between older men and older women in long-term care settings. Older men were found to have more positive perception of their body image than were older women from the results of the Draw-A-Person test (Machover, 1949), but there was no significant difference in older men' and women's satisfaction with their body parts. In addition, since the samples in Janelli's study were heterogeneous in their age, marital status, religious background, and educational level, factors which could have influenced their drawing skills, the differences found in the Draw-A-Person measure between older men and women may be caused by other factors than gender. Use of more reliable measures of body image among older persons is suggested.

Franzoi and Koehler (1998) found that older men expressed more positive attitudes on five of 35 body parts measures than did older women; however, the differences between older men and women in their satisfaction with body parts were less significant than the

differences between young men and women, partly because older women's satisfaction with weight-related body parts were greater than young women's. Gender differences in satisfaction with the body were also found in Tiggemann's (1992) study in that older women had greater dissatisfaction with their body shape than did older men. Since the differences between older men and women found in these two studies were from their satisfaction with specific body parts or aspects, gender differences in overall attitudes toward or satisfaction with the body among older persons cannot be generalized.

On the contrary, Wilcox (1997) reported no gender differences in self-assessment of physical appearance among older men and women. In the same vein, Hennessy (1989) wrote that "...concerns related to appearance and health become more alike for men and women between early and late old age" (p.45). Since older men have been often excluded from the study of body image, reflecting researchers' implicit assumption that body image issues are less pertinent or problematic for men than women (Cash & Brown, 1989), further research involving older men as well as using overall measures of body image is suggested.

When analyzing results across a number of studies, Jackson (1992) found that body attractiveness had stronger consequences for females than for males while body aspects associated with physical strength such as height and musculature had stronger consequences for males than for females. Women, more than men, tend to consider their body attractiveness to be more important, and they engage in more appearance management behaviors such as exercise to control weight or dieting (Aune & Aune, 1994; "Body Image", 1997; Cash et al., 1986; Jackson, Sullivan, & Hymes, 1985; Jackson, Sullivan, & Rostker, 1988). For example, in a study by Pliner, Chaiken, and Flett (1990), female subjects aged from 10 to 79 years had significantly lower appearance self-esteem, greater concern about physical attractiveness and weight, and greater motivation for dieting to improve their appearance than did their counterpart male subjects.

Gender differences in appearance management were found in Daly, Hogg, Sacks, Smith, and Zimring's (1983) study such that women spent more time managing their appearance than did men. Cash and Brown (1989) also found that women were more appearance oriented than were men. Women's greater involvement in appearance

management compared to men may reflect the pressures women have on their physical attractiveness in contemporary culture (Cash, Gillen, & Burns, 1977; Kenrick & Trost, 1989; Schrift, 1994) and gender socialization that encourages women, more than men, to attend to physical appearance (see Kaiser, 1990).

With regard to the aging process, Harris (1994) found that women used significantly more age concealment techniques such as coloring hair and using anti-aging creams than did men. These women were also higher than men in the likelihood that they would color their hair, use a wig or toupee, conceal their wrinkles with a cream or Retin-A, and get a facelift or other plastic surgery. These results suggest that women are more vulnerable to the effects of aging on their physical appearance and are more motivated to try to conceal or slow down the physical changes than are men. However, no previous study has involved exclusively older people to examine gender differences in engagement in appearance management behaviors. Among the many activities older persons may participate in to achieve a better body and appearance, exercise, dieting, use of anti-aging products or techniques, daily grooming, and apparel-related behavior were studied in relation to older persons' body image. Regarding gender differences in body image and appearance management, two hypotheses were generated.

H<sub>1-1</sub>: *Older men have a more positive body image than do older women.*

H<sub>1-2</sub>: *Older women engage in more appearance management practices than do older men.*

### **Exercise**

Older persons often times engage in exercise to prevent or slow deterioration of the body's physiological capacities due to aging (Fontane, 1996). Their involvement in exercise has been found to be associated with improvement in physiological health (Blair, Kohl, Barlow, & Gibbons, 1991; Blumenthal & Williams, 1982; Emery & Blumenthal, 1990; Kohrt, Obert, & Holloszy, 1992; LaFontaine, Dabney, Brownson, & Smith, 1994; Lowenthal, Kirschner, Scarpace, Pollock, & Graves, 1994; Munnings, 1993; O'Brien & Vertinsky, 1991; Wolinsky, Stump, & Clark, 1995). Positive health outcomes of exercise may motivate older people to continue or to maintain their exercise regimens.



Positive psychological outcomes of exercise such as increased self-confidence (McAuley, 1993), lower psychological distress and greater self-efficacy (McAuley, Shaffer, & Rudolph, 1995), heightened self-esteem (Reitzes, Mutran, & Verrill, 1995), and perceived internal locus of control (Hill, Storandt, & Malley, 1993) have been also found with older people. However, Williams and Lord (1995) found no relationship between psychological variables (locus of control, depression, anxiety, stress, and cognitive functioning) and older women's participation in a formal exercise program. Although it is generally believed that exercise strengthens the physical body and brings psychological well-being, thereby improving the quality of life of aging people (Fontane, 1996), the relation between psychological factors and older people's involvement in exercise deserves further investigation due to inconsistent results from the previous studies.

Some people engage in exercise in order to reduce the gap between perceived body image and ideal body image and to improve physical appearance (Cash, Novy, & Grant, 1994). However, previous studies that looked at the relationship of exercise and body image among older people are rare. Hallinan and Schuler (1993) reported that older women who exercised regularly showed greater differences in their perception of current and ideal body shape than those who did not exercise at all. Even though the researchers did not measure older women's satisfaction with their bodies, the results implied that older women who exercise may be less satisfied with their current bodies. A major motive for these women to engage in exercise might be to achieve a certain ideal body shape. Similarly, Abadie et al., (1996) found that older men, especially Black men who were highly involved in physical activities showed significantly greater differences in their perception of current and ideal body shape than did those who were lower in physical activity. A greater discrepancy between current body shape and an ideal body shape may result in dissatisfaction with their current bodies.

Sydney and Shephard (1976) examined the psychological effects of a 14-week physical training program of fast walking, jogging, and other forms of endurance work on older men and women. Initially, the older women had more negative attitudes toward their bodies than did the older men, and showed larger differences between their perceived and

ideal body image. However, after the training, regardless of their initial scores on body image, significant improvement in body image scores occurred among older participants who regularly and frequently attended the program.

The relationship between body image, especially body satisfaction and degree of involvement in exercise were extensively explored with other populations. David, Claridge, and Brewer (1996) and Davis and Fox (1993) found that among women high-level exercisers reported greater body satisfaction than did low-level female exercisers. In the same vein, Salusso-Deonier and Schwarzkopf (1991) reported that participating in exercise contributed to improved body satisfaction for both men and women regardless of initial level of body satisfaction. In a study by Ford, Puckett, Reeve, and Lafavi (1991), male college students who participated 3 hours per week for 8 weeks in body building and jogging showed greater improvements in body satisfaction and in global self-concept than did those who participated only in strength development or those who did not participate in any activity.

However, Imm and Pruitt (1991) found that high frequency exercisers showed greater dissatisfaction with their body shape than did a group of moderate exercisers and nonexercisers among middle-aged women. David and Cowles (1991) found that for both men and women, the degree to which they exercised was not associated with any of the body image variables including body focus, body dissatisfaction, and perceived weight related to desired weight. Similarly, no difference was found in body satisfaction and self-esteem between female college students who participated 3 hours per week for 8 weeks in one of five activities (aerobic dance, jogging for fitness, swimming for fitness, life saving, and weight training) and those who did not participate in any of the activities (Ford, Puckett, Blessing, & Tucker, 1989). These inconsistent findings with young people and the absence of research involving older persons led the researcher to examine the nature of the relationship between aspects of body image and engagement in exercise among older men and women. Based on these findings, the following hypothesis was developed.

*H<sub>2-1</sub>: Older persons who feel more positive about their bodies and appearance exercise more than do those who feel less positive about their bodies and appearance.*

## **Dieting**

Dissatisfaction with physical aspects of the self, especially with physical appearance is closely related to dieting and eating disorders (American Psychiatric Association, 1994). Carter, Bulik, Lawson, Sullivan, and Wilson (1996) found that young women with eating disorders rated their current bodies as larger and had greater body dissatisfaction than did non-eating disordered women. Greater concerns for weight and body shape were also reported among obese individuals with binge eating disorders (Eldredge & Atras, 1996).

While a sizable number of studies of dieting and eating disorders with regard to body dissatisfaction or body perception have been conducted with young people in adolescence and young adulthood (e.g., Garner & Garfinkel, 1981/82; Striegel-Moore, Wilson, Wilfley, Elder, & Brownell, 1998; Thomas & James, 1988; Thompson, Coover, Richards, Johnson, & Cattarin, 1995), little effort has been made to examine the prevalence of these behaviors among older people, especially older men. In a recent national survey by *Psychology Today*, Garner found that 66% of women and 52% of men were dissatisfied with their weight and these rates of dissatisfaction with weight both for women and men has increased during the last three decades ("Body Image", 1997). In the same study, 84% of women ranging in age from 13 to 90 and 58% of men ranging in age from 14 to 82 reported that they were on a diet at that time or they had dieted to lose weight in the past. Dieting appears to be a popular way to control or to lose body weight regardless of age and gender.

In a study examining attitudes toward eating behaviors and body size among older Black and White women, Stevens et al., (1994) found that both Black and White older women who were overweight were more likely than those who were not overweight to report eating restraint such as eating less than they wanted to keep weight down, feeling guilty about overeating, and dieting to lose weight. Polivy, Garner, and Garfinkel (1986) found that dissatisfaction with weight and body shape was a prominent body image concern, especially for women. Dissatisfaction with current body weight among older women appears to motivate them to engage in dieting.

Hetherington and Burnett (1994) found that older women did not differ from young women in dietary restraint and eating attitudes and that women in both ages reported a

desired body weight lower than their current body weight, expressing some dissatisfaction with their weight. In the study, over 50 percent of the older subjects reported that they were or had been actively engaged in dieting to lose weight. Older women who had or were dieting had started dieting between the ages of 40 and 50. Women may be concerned about weight gain usually accompanied with aging in middle age; their dissatisfaction with weight gain or overall body shape may lead to restricted eating patterns such as dieting. In a similar study, Hetherington (1994) confirmed that dieting, the desire to lose weight, and dissatisfaction with the body were prevalent for women of all ages despite normal weight status. Allaz, Bernstein, Rouget, Archinard, and Morabia (1998) also reported a positive association between dissatisfaction with current body weight and dieting for weight control among a sample of 1,053 European women aged from 30 to 74 years.

Gupta and Schork (1993) found a positive relationship between aging-related concerns about physical appearance and excessive preoccupation with thinness and body weight among older men and women from a nonclinical sample of mall shoppers. Findings indicated that both older men and women who were more worried about the effect of aging upon their appearance showed greater concerns about dieting, greater desire to lose weight, and greater fear of weight gain than did those who were less worried. Overall, older women, more than older men, were found to be concerned about aging-related changes. The influences of aging-related concerns on body dissatisfaction and dieting were much stronger for older women than for older men. The researchers also reported an inverse relationship between general satisfaction with physical appearance and their desire for thinness among older women. In other words, older women who were more satisfied with their physical appearance showed less interest in dieting and less desire to lose weight. Gupta (1995) also found significant influences of concerns about aging on excessive concerns about dieting, preoccupation with weight, and an extreme pursuit of thinness among randomly selected older subjects. These two similar studies with different older samples suggest that older persons' concerns about aging may lead to dissatisfaction with their bodies and to behaviors to lose weight such as dieting. However, there are no previous studies that have looked at the

relation of other aspects of body image besides body satisfaction and engagement in dieting among the older population.

*H<sub>2-2</sub>: Older persons who feel less positive about their bodies and appearance are more involved in dieting than are those who feel more positive about their bodies and appearance.*

### **Use of anti-aging products and techniques**

In contemporary society emphasizing the importance of youthful looks, signs of aging can be a threat to older persons' self perception, particularly older women's body image, which might drive them to engage in activities to reduce the influences of these changes or to reverse the aging process. Within this youth-oriented culture, the anti-aging industry has become more popular and prevalent.

Recently, marketers and manufacturers of cosmetic products have increased the development and production of anti-aging skincare or haircare products promising baby boomer consumers, who are likely to start finding aging lines and white hairs, that these products would reduce the symptoms of aging (Aktar, 1995; Hebner, 1985; Riddle, 1993; Sargisson, 1994). Increasing demands for anti-aging products often go beyond cosmetics. Consumption of anti-aging drugs, vitamins, and hormones has been growing dramatically (Doskoch, 1996). The use of these anti-aging products may bring an actual improvement in older persons' physical appearance or may make them feel more youthful and attractive and as having more control over their aging bodies and appearance.

Although heightened body awareness and changes in body image during the aging process seem to relate to older persons' decisions to use anti-aging products or techniques (e.g., Harris, 1994), no previous scholarly studies have been conducted that looked at the relation between aspects of body image and consumption of anti-aging products by older people. Little is known as to why there are variations in the use of anti-aging products among older people to whom aging-related physical changes occur quite universally.

Attempts to counteract the signs of aging are evidenced also by a growing number of older people, especially women seeking cosmetic surgery such as buttock lift, cheek implants, eyelid surgery, facelift, forehead lift, liposuction, thigh lift, or tummy tuck (Braus, 1995;

Pruzinsky & Edgerton, 1990). Having cosmetic surgery has been found to result in more positive feelings about the surgically changed appearance (Wengle, 1986), increased self-esteem and decreased depression and anxiety (Goin & Goin, 1981, 1986; Graham & Kligman, 1985), and overall improvement in body image (Hollyman, Lacey, Whitfield, & Wilson, 1986). For example, Goodman (1994) found that women who had undergone cosmetic surgery regardless of their age were more positive about their bodies and more self-confident both before and after the surgery than were those who had not had surgery. Improvements in evaluation of specific body parts and in overall body image, increased attractiveness, and improved self-confidence emerged from in-depth, ethnographic interviews with cosmetic surgery patients in a qualitative study by Schouten (1991).

Although the results of previous studies imply that feelings about the body or appearance are related with one's decisions to use cosmetics or to have cosmetic surgery, little effort has been made to explore the relationship of these two areas. Relevant to the older population, the relationship between body image and the degree to which older persons use various anti-aging products and techniques including cosmetic surgery was examined in this study.

*H<sub>2,3</sub>: Older persons who feel more positive about their bodies and appearance use more anti-aging products and techniques than do those who feel less positive about their bodies and appearance.*

### **Grooming**

Generally, appearance-enhancement products tend to make users feel more attractive and to experience greater self-esteem, a more positive mood (Bloch & Richins, 1992), or more positive attitudes toward the body. Theberge and Kernaleguen (1979) found that satisfaction with the body and face was positively related to the amount of cosmetics used and the importance placed on the use of cosmetics among women between 29 and 59 years old. In a study by Miller and Cox (1982), women who were more concerned about their appearance tended to wear more makeup and believed that wearing makeup made them attractive and enhanced their social interactions with others. Cash and Cash (1982) also

found greater body satisfaction among women who bought more facial cosmetics and spent more time on daily cosmetic application.

In a study examining the relationship between body satisfaction and overall grooming-products usage levels among young adults, Rook (1985) found that both men and women who were more satisfied with their body parts were more likely to be frequent users of grooming products such as hair conditioner, blow dryer, cologne, skin moisturizer, facial bronzer, tooth polish, and talcum powder. It appears that aspects of body image such as body satisfaction are related to the degree with which people engage in daily grooming. Further research is required to explore this relationship among older people.

*H<sub>2-4</sub>: Older persons who feel more positive about their bodies and appearance spend more time on daily grooming than do those who feel less positive about their bodies and appearance.*

### **Clothing-related behavior**

Aging-related physical changes may have significant influences on the way in which older persons view their bodies. Aging of the body may create needs to buy new clothing or to change attitudes related to clothing (e.g., Smathers & Horridge, 1978/79). After integrating the results of 29 previous studies, Jackson and O'Neal (1994) concluded that older women reacted to physical changes associated with aging and changes in body image, self image, and attractiveness by choosing apparel that provided comfort and other self-help features, choosing flattering dress designs (line and color), and using alterations of ready-to-wear and custom tailoring.

In explaining the relation of body image and clothing behavior, Kaiser (1990) stated that self-feelings about the body are very closely related to clothing preferences and attitudes. Labat and DeLong (1990) found that women who were more satisfied with their bodies were also more satisfied with physical fit of ready-to-wear clothing. In contrast, Sontag and Schlater (1982) stated that clothing may compensate for body dissatisfaction and that body satisfaction or dissatisfaction may be translated to behaviors or attitudes related to clothing.

Ford and Drake (1982) reported that college female students with higher self-esteem and greater satisfaction with their bodies showed more positive attitudes about their abilities

to coordinate ensembles. Hollomon (1989) reported that there were significant correlations between self-esteem and certain clothing attitudes such as the use of clothing to draw attention to oneself, to enhance and compliment the individual, to gain approval of others, and for functional and utilitarian reasons among Black adults. Kwon and Parham (1994) examined the relationship between perception of body fatness and clothing selecting practices among young women. The researchers found that women who felt fat or felt they had gained weight valued more the ability of their clothing to provide comfort and camouflage and had less interests in the use of clothing as a means of expressing individuality or fashionableness than did those who felt slender or felt they had lost weight.

However, the lack of strong correlation between body satisfaction and clothing interest was found among high school cheerleaders (Littrell, Damhorst & Littrell, 1990). Similarly, Shim and Kotsiopulos (1990) found in a national random sample of women ranging in age from 25 to 54 that body satisfaction was slightly related to satisfaction with general fit of clothing, but not correlated with any shopping-orientation variables such as brand conscious, convenience conscious, or fashion conscious.

In investigating men's body satisfaction and clothing behavior, Shim, Kotsiopulos, and Knoll (1991) found that men who were more satisfied with their body parts and had favorable attitudes toward clothing tended to (1) be fashion innovators and opinion leaders, (2) be satisfied with ready-to-wear and product variety or store quality, (3) enjoy shopping, (4) be confident in choosing the right clothes for themselves, (5) patronize a certain store, and (6) be frequent purchasers of clothing.

Unfortunately, very little is known about the relationship between older persons' perceptions of their aging bodies and their clothing-related behaviors. Despite apparel marketers' underestimation of older persons' expenditures on clothing, most active older people have been found to maintain their interests in apparel (French & Fox, 1985; Greco & Paksoy, 1989; Hogge & Baer, 1986; Hogge, Baer, & Kang-Park, 1988; Kaiser & Chandler, 1984; Lazer & Shaw, 1987; Lumpkin, 1985; Moschis, 1996b; Richards, 1981). Yet, older persons were reported to spend less money on clothing than younger persons (Cook & Settersten, 1995; Dardis, Derrick, & Lehfeld, 1981; Norum, 1989). Further study of older



persons' expenditure patterns on clothing and clothing-related products is needed due to their increase in the population and purchasing power. Older persons' apparel expenditure patterns vary depending on age, income, education, gender, race, marital status, size of household, retirement, financial assets, and region (Lee, Hanna, Mok, & Wang, 1997). However, little is known about whether older persons' attitudinal factors such as body image influence their apparel expenditure patterns. Older persons' feelings about their bodies and the degree to which they place importance on physical appearance may be reflected in their involvement in shopping for apparel.

H<sub>2-5</sub>: *Older persons who feel more positive about their bodies and appearance spend more time on apparel shopping than do those who feel less positive about their bodies and appearance.*

H<sub>2-6</sub>: *Older persons who feel more positive about their bodies and appearance spend more money on apparel than do those who feel less positive about their bodies and appearance.*

In sum, older persons' feelings about or evaluation of their aging bodies and appearance have implications for their appearance-related behaviors. In most previous studies only one aspect of body image, satisfaction or dissatisfaction with the body and appearance, has been entered as a body image variable when studying older persons' engagement in appearance management practices to manage their aging bodies or to defy the aging process. Therefore, other components of body image such as overall attitudes toward the body and appearance, the importance placed on physical appearance, and the orientation to appearance-related activities have not been studied as related to older persons' engagement in appearance management practices. People who are highly oriented to appearance may be more interested in and more cognitively involved in appearance-related behaviors. In this study, a relation between body image as a broader concept than body satisfaction and engagement in appearance management practices was studied extensively. With regard to the relationship between the orientation to appearance and engagement in appearance management practices, the following hypotheses were generated.

H<sub>2-7</sub>: *Older persons who are more oriented to the body and appearance*

- a) exercise more*
  - b) are more involved in dieting*
  - c) use more anti-aging products and techniques*
  - d) spend more time on daily grooming*
  - e) spend more time on apparel shopping*
  - f) spend more money on apparel*
- than do those who are less oriented to the body and appearance.*

### **Factors Related to Body Image Among Older Persons**

Researchers have speculated that body image declines as a result of physical changes associated with the aging process. Chrisler and Ghiz (1993) pointed out that it may be difficult for older persons, especially older women to feel comfortable about aging in a culture which exclusively celebrates youthful good looks. Contrary to the expectation, no significant aging-related decline in body image has been found in studies which examined the effect of chronological age on body image (Berscheid et al., 1973; "Body Image", 1997; Cash et al., 1986; Janelli, 1986a, 1993; Loomis & Thomas, 1991; Van Deusen et al., 1989). To better understand how older persons feel about their aging bodies and appearance, it is necessary to explore the factors which may have impact on the formation of body image of older persons.

Loomis and Thomas (1991) examined body attitudes of older women in two different living situations - nursing home residents and own home residents. The researchers found that older women who lived in their own homes expressed more positive body attitudes than did those who were residents of a nursing home. However, these differences in body attitudes were more attributable to the greater number of health problems experienced by nursing home residents than to living situation differences. Regardless of living situations, older women who reported more health problems were found to be less satisfied with their bodies than those who reported fewer health problems.

Ross et al. (1989) reported that older persons who had more positive body image felt younger than their actual ages. Rackley, Warren, and Bird (1988) found that middle-aged

women who had higher self-esteem and felt more in control of their lives tended to be more satisfied with their body image.

A *Psychology Today* national survey conducted in 1997 revealed that physical, interpersonal, and emotional factors influenced body image. For both men and women in all ages, exercising regularly, losing weight, feeling thin, wearing flattering clothes, accepting their bodies as they were, getting compliments on their appearance, being loved by another person, having positive relationships, feeling confident in their abilities, and feeling effective were found to foster positive body image. On the other hand, gaining weight, not exercising regularly, looking at their stomach in the mirror, getting spouses' opinions of their appearance, being around someone critical, not feeling confident, and being in a bad mood were found to induce negative body image ("Body Image", 1997). These survey results contribute to the base of knowledge about the factors of interest in this study as related to body image among the older population. In this study, aging-related variables (aging-related physical changes including health), relationship-related variables, and psychological variables (cognitive age and mood) were examined as the factors explaining older persons' body image.

#### **Aging-related physical changes**

Gupta, Schork, and Dhaliwal (1993) reported that there was a significant inverse correlation between concerns about aging appearance and body satisfaction among older women such that women who were more concerned about the effects of aging were more dissatisfied with their bodies and appearance. However, the researchers found no relationship between these two variables among older men. Aging-related changes of the body or appearance may have a negative impact on older women's feelings about or satisfaction with the body.

White (1988) studied the perception of physical aging among a national sample of men and women aged between 20 to 60. These persons were initially interviewed in 1980 and were then asked again in 1983 whether they had experienced a decline in eyesight, hearing, teeth, and energy and a change in hair, skin, and weight in the last three years. White found that perception of physical aging increased with age but, more similarities than

differences occurred in the ways in which men and women perceived physical changes of their bodies. These results led the researcher to reject the notion that women are more sensitive toward aging or signs of physical deterioration than are men. She concluded that both men and women become aware of aging in much the same way. White also found that people tended to maintain relatively youthful images of themselves as long as they could by denying the physical evidences of aging. Signs of physical aging clearly seem to be a threat to aging persons' sense of the self, including body image. These findings were consistent with Blau's (1965) early assertion that "...awareness of aging is a change in self-concept that is avoided as long as positive responses from our social environment make such avoidance possible" (p.199).

No previous study has looked at the relation between the perception of aging-related changes and body image among older persons, although people often first realize that they are aging by looking at themselves in the mirror and by noticing changes of their bodies and appearance.

*H<sub>3-1</sub>: Older persons who have experienced more aging-related changes of their bodies and appearance feel less positive about their bodies and appearance than do those who experience fewer changes.*

### **Health**

During the aging process, changes in physical ability, mostly losses in physical health condition, often lead to restrictions in social and personal activities, which often result in lower self-esteem (Roberto & McGraw, 1991). Bodily deterioration may bring changes or adjustments in body image. Cornwell and Schmitt (1990) found changes in self-esteem, self-concept, and body image among women suffering from rheumatoid arthritis and systemic lupus erythematosus. In a study by Ross et al. (1989), older persons who evaluated themselves as healthier than the stereotype of the elderly showed more positive self-evaluation of the body. Additionally, Loomis and Thomas (1991) reported that health condition was positively related to body attitudes among older women. Poor health may influence directly older persons' feelings about their bodies and appearance. In addition, older persons in poor health may receive unfavorable signals from others, which may result in

negative attitudes about themselves as well as their bodies. For example, frail, sick older persons were also seen more negatively than were healthy older persons by young viewers (Gekoski & Knox, 1990).

Global self-assessment of health appears to be significantly related to objective indicators of health status such as physician assessments and medical record data (Ferraro, 1980; Fillenbaum, 1979; LaRue, Band, Jarvik, & Hetland, 1979). Wilcox (1997) reported that self-assessment of health was significantly associated with appearance evaluation regardless of age and gender. In other words, individuals who perceived themselves as healthier rated their appearance more positively than did those who perceived themselves as less healthy.

Previous studies which have looked at how self-assessment of health influences older men's and women's body image are limited. In this study, self-assessed health along with aging-related physical changes were studied as related to older men's and women's feelings about their bodies and appearance and the importance placed on physical appearance.

*H<sub>3,2</sub>: Older persons who feel healthier feel more positive about their bodies and appearance than do those who feel less healthy.*

### **Relationship with spouses**

Hennessy (1989) proposed that an individual's adaptation to physical changes with age is influenced by the individual's perception of supports provided by a spouse or significant others. Garner also found that individuals' feelings about the body were influenced by the quality of a relationship with their spouse and by their spouse's reaction to the individuals' physical appearance ("Body Image", 1997). In the same vein, Gupta (1990) reported that the emotional or physical absence of a spouse was found among female patients who suffered from eating disorders when they started to notice visible physical stigma of aging such as wrinkling and sagging skin. However, surprisingly few researchers have explored the relation of marital experience and feelings about the body and appearance.

Giesen (1989) found qualitative differences in perception of attractiveness between single and married women between 28 and 63 years. Across age groups, single women used fewer references to appearance/physical attributes and behavior/inferred traits to define

attractiveness than did married women. It was also found that more single women than married women had changed definitions of attractiveness and evaluated themselves as having grown more attractive over the past ten years. In addition, middle-aged and older married women perceived physical changes such as gray hair, wrinkles, changes in facial contour, lines and wrinkles, and weight gain as the causes of their diminished attractiveness while middle-aged and older single women thought that such changes in face and the body had improved their attractiveness or had nothing to do with their attractiveness. The results of Giesen's study imply that the signs of aging, especially in appearance, may have greater influence on married women's perception of attractiveness than on single women's and that different life experiences between single and married women may be reflected in their different evaluations of self-attractiveness. Further, there is a need to examine closely whether the quality of interaction between women as well as men and significant others such as a spouse is related to their perception of the body and appearance during the aging process.

In examining the effects of physical attractiveness on marital adjustment among older couples, Peterson and Miller (1980) found that husbands' physical attractiveness was emphasized more by the couple than wives' attractiveness and was related more strongly to couple's marital adjustment. In other words, both husbands' and wives' satisfaction with their marriages depended not only on the wife's positive evaluation of her husband's physical appearance, but also on the husband's positive perception of his physical appearance. These findings were consistent with Murstein and Christy's (1976) study with middle-aged married couples. The results of these early studies indicated the importance of physical appearance, especially husbands' physical attractiveness, in long-term married couples' evaluation of their relationships. These results also suggest that within marital dyads, husbands feel more pressure to age gracefully and to retain youthful looks, which is opposite to a general belief that women in all ages are more concerned about their bodies as they age and engage more in appearance-related activities to stay young and attractive. It is possible that physical aging in women is viewed so negatively in U.S. society that couples may tend to ignore or de-emphasize the importance of wives' aging. A "double standard" operates for men, however, who can be seen as attractive while acquiring the "patina" of aging.

However, in a study examining whether husbands and wives differed in the evaluation of declines in physical appearance associated with aging such as weight gain or changes in shape, Margolin and White (1987) found that husbands and wives were not different in the perception of declines in their own physical attractiveness and declines in their spouses' physical attractiveness. However, differences were found between husbands and wives in the influences of these declines on the evaluation of their sexual relationships with partners. Declines in wives' physical attractiveness were associated with husbands' and, to a lesser degree, wives' sexual disinterest and marital problems. From these results, Margolin and White concluded that regardless of age, marital duration, or relative economic status, declines in wives' physical appearance had greater impact on the quality of marital sexuality than did declines in husbands' appearance. Although the inverse relationship wasn't tested by the data, it is possible that individuals who are unhappy with their spouses or dissatisfied with their marriage are more likely to perceive physical changes of their own or spouses' bodies as unattractive than are those who are satisfied with their marriages.

Further research is needed to clarify relationships between marital experience and perception of physical appearance among aging couples, especially the influences of the quality of interaction between husbands and wives on their perception of their own physical appearance and their spouses' physical appearance. Little is known about possible influences of older individuals' marital experiences on their assessments of the aging body or appearance. It is possible that aging wives see their bodies as attractive or in a positive light because the wives evaluate their husbands as attractive. Or wives may think their husbands perceive them as attractive and, as a consequence, the wives feel more attractive. The same symbolic interaction effects are also possible for aging husbands.

- H<sub>3-3</sub>: *Older persons who perceive that their spouses evaluate their bodies as more attractive feel more positive about their bodies and appearance than do those who perceive that their spouses evaluate their bodies as less attractive.*
- H<sub>3-4</sub>: *Older persons who evaluate their spouse as more attractive feel more positive about their own bodies and appearance than do those who evaluate their spouse as less attractive.*

H<sub>3-5</sub>: *Older persons who are more satisfied with their marriage feel more positive about their bodies and appearance than do those who are less satisfied with their marriage.*

### **Cognitive age**

The effects of aging on older persons' feelings about their bodies and appearance are not necessarily related to the chronological age of older persons. Rather, body image depends somewhat on the internal clock of how old a person feels (Janelli, 1986a; Ross et al., 1989). Barak and Stern (1986) stated that how old people perceive themselves to be is closely related to their personal and social behaviors in the aging process. Among many types of self-perceived age, the concept of "cognitive age" has received much research attention (Barak, 1998). Barak and Schiffman (1981) originally conceptualized cognitive age as consisting of four components: emotional (feelings), biological (looks), societal (actions), and intellectual (interests). Older persons' feelings about their aging bodies and appearance or their orientation to appearance-related activities may be linked to how old they really see themselves.

Goldsmith and Heiens (1992) found that people aged 50 and older uniformly perceived themselves as looking, acting, and feeling younger than they were, while people in their 30s showed large variability in their self-perceived age. These results provided the evidence that negative stereotypes or stigma attached to being old do exist among older persons in contemporary U.S. culture. In addition, the researchers found that among four constructs of the subjective age measures -- feel age, look age, do age, and interests age -- how old people feel and how old people feel they look were highly related, but how old people feel they look was not highly associated with their chronological age. These results suggest that although physical changes associated with aging happen to everyone, the way people perceive these physical changes may depend on how old they feel internally.

Montepare and Lachman (1989) reported that in middle and older adult years, women and, to a lesser degree, men perceived themselves as looking and feeling younger than their actual ages. These gender differences in the perception of age have been found in previous studies, suggesting that women were more sensitive to negative stereotypes associated with being old (Bengtson, Kasschau, & Ragan, 1977; Peters, 1971; Ward, 1977). However,



Goldsmith and Heiens (1992) fail to support the hypothesis that women tend to have lower subjective age over all components of cognitive age than do men of equivalent chronological age.

Wilkes (1992) found that cognitively younger “older” women manifested higher self-confidence and greater fashion interest, were more work oriented, and had greater participation in entertainment and culturally related activities than did cognitively older “older” women. Barak and Rahtz (1989) also found that persons who perceived they were cognitively younger possessed a greater sense of self-respect and a stronger belief in their own capacities, while persons who perceived themselves cognitively older showed lower self-esteem and greater loneliness. Similarly, feeling younger than one’s age was found related to better physical and psychological health among 309 older subjects selected equally from multipurpose centers, residential treatment facilities, and general communities (Baum & Boxley, 1983). In a recent study by Barak (1998), middle-aged people were found to feel cognitively younger when they held strong, forceful masculine values, were more satisfied with their current status in life, felt healthier than others, felt better about themselves, were more concerned about the public impression they made, and were more involved in social activities. These results indicate that older persons who feel cognitively younger may hold more positive attitudes about themselves and age more successfully than do older persons who feel cognitively older.

Cognitively younger “older” persons may be able to view their aging bodies and appearance independently from their inner self; they could avoid identifying themselves as being old and fitting negative stereotypes or stigma. Although there is no previous study which looked at the relation between cognitive age and body image of older persons, it was expected that cognitively younger “older” persons may have more positive attitudes about their aging bodies. Furstenberg (1989) also suggested that the relationship of body image and self-perceived age of both men and women in their later years needed further exploration.

H<sub>3-6</sub>: *Older persons who are cognitively younger feel more positive about their bodies and appearance than do those who are cognitively older.*

## **Mood**

One's perception of the body is constantly changing rather than fixed or static (Pruzinsky & Cash, 1990). Mood states are thought to be considerably important in assessing psychological well-being of older persons (Curran, Andrykowski, & Studts, 1995; Lawton, Kleban, Dean, Rajagopal, & Parmelee, 1992; Stacy & Gatz, 1991). Positive mood states experienced by older people include feeling energetic, interested, happy, warmhearted, and content; negative mood states consist of being worried, sad, depressed, annoyed, and irritated (Lawton et al., 1992).

Mood states that older persons experience may temperaneously affect the evaluation of their bodies and appearance. Positive moods may induce positive feelings about the body, while negative moods may foster dissatisfaction or intolerance with weight or body features. Garner reported being in a bad mood as one of the factors fostering negative body image ("Body Image", 1997). In a study involving 109 subjects aged from 21 to 61, Champion, Austin, and Tzeng (1982) found that psychologically happy people perceived their bodies as more energetic, lively, attractive, satisfactory, and healthy.

With regard to the relationship of moods and body image, a considerable number of studies have examined the relationship between negative moods, especially depressed mood, and body image, such as dissatisfaction with the body, weight, or shape (Cohen-Tovee, 1993; Koenig & Wasserman, 1995; Laessle, Kittl, Fichter, & Pirke, 1988; Lautenbacher, Thomas, Roscher, Strian, Pirke, & Krieg, 1992; Rierdan & Koff, 1997). For example, Joiner, Wonderlich, Metalsky, and Schmidt (1995) found that depression was significantly related to body dissatisfaction among undergraduate female students. Interestingly, the relationship between depression and body dissatisfaction has been more significant for women than men (Davis & Katzman, 1997; Rosen, Gross, & Vara, 1987; Striegel-Moore, Silberstein, & Rodin, 1986).

Depression has been consistently found to fuel eating disordered behaviors such as bulimia or anorexia nervosa which are closely linked to dissatisfaction with the body, especially body weight (Dewberry & Ussher, 1994; Herzog, 1984; Hudson, Pope, Jonas, & Yurgelun-Todd, 1983; Kasset, Gershon, Maxwell, Guroff, Kazuba, Smith, Brandt, &

Jimerson, 1989; Steiger, Leung, Puentes-Neuman, & Gottheil, 1992; Walsh, Roose, Glassman, Gladis, & Sadik, 1985). Previous studies were in agreement finding a positive relationship between negative moods such as depression and body dissatisfaction among adolescent and early adult persons. With regard to the relation of depression and body image among older persons, Maximin (1989) found that older persons who evaluated their appearance more positively were less depressed than were those who evaluated their appearance less positively. In the same vein, Janelli (1986a) reported that older women who possessed a less positive perception of their bodies mentioned stresses from family responsibilities and sacrifices of the body in service for others. Psychological distress is known to cause psychological changes such as inducing negative moods (Greeno & Wing, 1994). More research is needed to explore the effect of various moods including positive moods on body image among older persons.

*H<sub>3-7</sub>: Older persons who have more positive mood feel more positive about their bodies and appearance than do those who have less positive mood.*

*H<sub>3-8</sub>: Older persons who have more negative mood feel less positive about their bodies and appearance than do those who have less negative mood.*

In sum, older persons' body image appears to need adjustment to physical changes associated with aging. Although aging occurs in everyone, older individuals' experience of aging, including their experience of the aging body, may vary depending on their physical health, relationship with their spouse, cognitive age, and different psychological moods. Earlier, the relationship between body image and engagement in various appearance management practices among older persons was discussed. Previous studies of older persons' body image have neglected its possible link to consumption behaviors intended to manage or control the aging body. This research was designed to examine the possible association between body image and appearance management practices -- exercise, dieting, use of anti-aging products and techniques, daily grooming, and apparel expenditures. In addition, the factors influencing older individuals' body image, particularly feelings about or satisfaction with their bodies and appearance and the importance placed on or the attention

paid to appearance were examined to expand the knowledge of older persons' perception of their bodies and appearance.

### **Coorientation in Interpersonal Perception in Marital Dyads**

Among the factors reviewed in the previous section, spousal influence on older person's body image needs to be explored further because older persons' evaluation of their bodies or appearance may be largely dependent on how they believe significant others such as a spouse see them. Symbolic interaction theory proposes that, as a consequence of role taking, people perceive themselves in ways shaped by how significant others see them (Mead, 1934). By taking on the role of the other, an individual attempts to interpret appraisals or reviews about appearance from the other's perspective (Stone, 1962). Learning about the self is a constant process of receiving reviews, reflecting meaning of those reviews, and incorporating reviews as a part of the self (Blumer, 1969). Since people never can adopt another person's perspective with complete accuracy, they may see themselves as they think significant others see them (Rosenberg, 1981). Thus, significant others' actual appraisals of an individual may influence his or her reflected appraisals (i.e., one's judgement of the actual appraisals by significant others) which then influence his or her self-appraisals (Schafer & Keith, 1985; Schafer, Keith, & Lorenz, 1984). Ichiyama (1993) reported that the effect of actual appraisals by significant others on individuals' self-appraisals was weak or disappeared when the individual's reflected appraisals were introduced between the actual appraisals by significant others and the individuals' self-appraisals. Within this symbolic interactionist perspective, the relationship between self-appraisals and significant other's actual appraisals has been understudied because the effect of others' actual appraisals on a person's self-appraisals should be predictable from the person's reflected appraisals.

However, the relationship between reflected appraisals and self-appraisals is simultaneously reciprocal rather than unidirectional (Ichiyama, 1993). Reflected appraisal may not be a sole function of actual appraisals by significant others, but be partly influenced by self-appraisals. May (1991) found that people were significantly less accurate in assessing how others viewed them in areas of great personal importance. In other words, when people

experience unexpected or unfavorable reactions from significant others on personally important matters, they tend to avoid or change whatever provokes anxiety "...as a result of the self-system's use of security operations, which function to ward off interpersonal anxiety" (Sullivan, 1953, p. 191). These findings suggest that it is necessary to look at the direct relationship between significant others' actual appraisals and self-appraisals when studying how a person's self-assessment of own appearance is related to his or her partner's actual appraisals in dyads.

In long-term marital dyads, persons' perception of their spouse's evaluation of the persons' appearance may have continuously contributed to the persons' evaluation of their own appearance. Since a person's perception of his or her spouse's appraisal is largely based on the spouse's actual evaluation, a husband's and a wife's self-assessment of their own appearance may correspond to how their spouses appraise their mate. People in a dyadic relationship may rely on each other to a great extent with regard to their perception of the self, including the physical self.

To explain this interdependence between a husband and a wife in perception of appearance, the concept of "coorientation" was used in this study. In Newcomb's AB-X system, "...to the degree that A's orientation toward X is contingent upon B's orientation toward X" (1953, p. 395), A and B (husband and wife) should perceive X (their own bodies or their spouses' bodies) in a similar way and so they are cooriented toward X. Here, coorientation means simultaneous orientation between two partners in a unit. Kenny (1988) extended Newcomb's idea of coorientation to social relations analysis to explain interpersonal perception in dyadic relationships.

Social relations analysis allows the researcher to deal with multiple perspectives in studying interpersonal relationships such as one's perspective to the other, the self, and the other's perspective of the self. The seven coorientation effects explained by Kenny's social relations analysis are as follows: (1) *consensus* refers to the extent to which two partners agree when rating a common third person; (2) *assimilation* refers to the extent to which a person sees two different persons similarly; (3) *reciprocity* refers to the extent to which a person sees the other in the same way the other sees the person; (4) *self-other agreement*

refers to the extent to which the other sees a person as the person sees himself or herself; (5) *assumed similarity* refers to the extent to which a person sees the other as the person sees himself or herself; (6) *accuracy* refers to extent to which a person knows how the other views him or her; and (7) *congruency* refers to the extent to which a person thinks that the other views him or her in the same way the person views the other (Kenny, 1988, p. 251-252). In Kenny and Kashy's (1994) study, the four coorientation effects -- consensus, assimilation, self-other agreement, and assumed similarity -- were found stronger for friendship dyads than for acquaintance dyads. No previous studies have examined these coorientation effects in the perception of appearance in marital dyads.

A model of spousal interdependence in appearance perception of marital dyads was proposed in this study (see Figure 1). Four variables used in the model were wife's evaluation of husband's appearance ( $X_1$ : WHA), husband's evaluation of wife's appearance ( $X_2$ : HWA), husband's self-assessment of his appearance ( $Y_1$ : HHA), and wife's self-assessment of her appearance ( $Y_2$ : WWA). The first path,  $\gamma_{11}$ , predicts the relationship between wife's evaluation of husband's appearance and husband's self-assessment of his appearance; while the second path,  $\gamma_{22}$ , explains the relation between husband's evaluation of wife's appearance and wife's self-assessment of her appearance. These two paths, explaining that a person's unique view of his or her spouse's appearance may correspond to his or her spouse's self-assessment of appearance, are a *self-other agreement* coorientation effect. The correlation between two exogenous variables ( $X_1$  and  $X_2$ ) explains *reciprocity* coorientation effect. It was expected that the correlation between two endogenous variables ( $Y_1$  and  $Y_2$ ) could be explained by these two coorientation effects between husbands and wives in long-term marriage. Husbands' self-assessment of appearance may be highly correlated with wives' self-assessment of appearance when husbands perceive their wife's appearance in a way in which wives' perceive their husband's appearance and husbands' and wives' actual evaluation of their spouse's appearance continuously influence their self-assessment of their own appearance. Within the model proposed, the following hypotheses were generated.

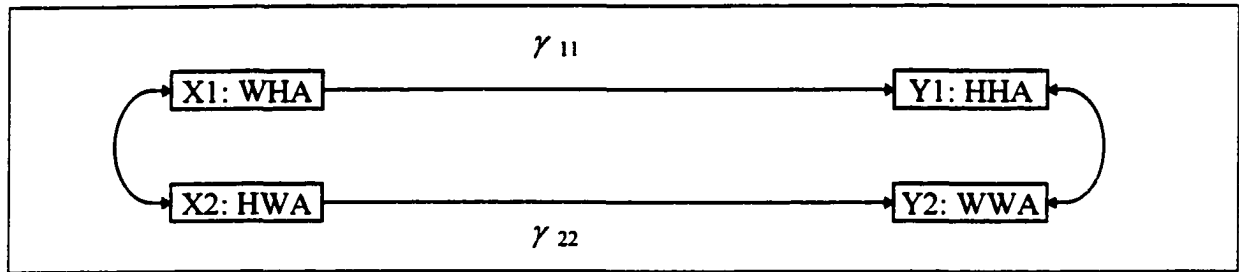


Figure 1. A model of spousal interdependence in appearance perception of marital dyads

- H<sub>4-1</sub>: *Husband's self-assessment of his appearance is positively correlated with wife's self-assessment of her appearance.*
- H<sub>4-2a</sub>: *Husband's actual evaluation of wife's appearance significantly affects wife's self-assessment of her appearance.*
- H<sub>4-2b</sub>: *Wife's actual evaluation of husband's appearance significantly affects husband's self-assessment of her appearance.*
- H<sub>4-3</sub>: *Husband's actual evaluation of wife's appearance is positively correlated with wife's actual evaluation of husband's appearance.*

### Research Hypotheses

Based on the review of the previous research, the following hypotheses were generated. First, gender differences were expected between older men and women in their perception of the body and their engagement in appearance management practices.

H<sub>1-1</sub>: Older men have more positive body image than do older women.

H<sub>1-2</sub>: Older women engage more in appearance management practices than do older men.

Second, older persons' body image may be related with their engagement in appearance management practices.

H<sub>2-1</sub>: Older persons who feel more positive about their bodies and appearance exercise more than do those who feel less positive about their bodies and appearance.

H<sub>2-2</sub>: Older persons who feel less positive about their bodies and appearance are more involved in dieting than are those who feel more positive about their bodies and

appearance.

- H<sub>2.3</sub>: Older persons who feel more positive about their bodies and appearance use more anti-aging products and techniques than do those who feel less positive about their bodies and appearance.
- H<sub>2.4</sub>: Older persons who feel more positive about their bodies and appearance spend more time on daily grooming than do those who feel less positive about their bodies and appearance.
- H<sub>2.5</sub>: Older persons who feel more positive about their bodies and appearance spend more time on apparel shopping than do those who feel less positive about their bodies and appearance.
- H<sub>2.6</sub>: Older persons who feel more positive about their bodies and appearance spend more money on apparel than do those who feel less positive about their bodies and appearance.
- H<sub>2.7</sub>: Older persons who are more oriented to the body and appearance
- a) exercise more
  - b) are more involved in dieting
  - c) use more anti-aging products and techniques
  - d) spend more time on daily grooming
  - e) spend more time on apparel shopping
  - f) spend more money on apparel
- than do those who are less oriented to the body and appearance.

Third, the relations between body image and the factors which have been found related with body image were examined with older persons.

- H<sub>3.1</sub>: Older persons who have experienced more aging-related changes of their bodies and appearance feel less positive about their bodies and appearance than do those who experience fewer changes.
- H<sub>3.2</sub>: Older persons who feel healthier feel more positive about their bodies and appearance than do those who feel less healthy.
- H<sub>3.3</sub>: Older persons who perceive that their spouses evaluate their bodies as more



attractive feel more positive about their bodies and appearance than do those who perceive that their spouses evaluate their bodies as less attractive.

- H<sub>3-4</sub>: Older persons who evaluate their spouse as more attractive feel more positive about their own bodies and appearance than do those who evaluate their spouse as less attractive.
- H<sub>3-5</sub>: Older persons who are more satisfied with their marriage feel more positive about their bodies and appearance than do those who are less satisfied with their marriage.
- H<sub>3-6</sub>: Older persons who are cognitively younger feel more positive about their bodies and appearance than do those who are cognitively older.
- H<sub>3-7</sub>: Older persons who have more positive mood feel more positive about their bodies and appearance than do those who have less positive mood.
- H<sub>3-8</sub>: Older persons who have more negative mood feel less positive about their bodies and appearance than do those who have less negative mood.

Finally, a model of spousal interdependence in appearance perception of marital dyads was tested to examine the coorientation effects between husband and wife in long-term marriage.

- H<sub>4-1</sub>: Husband's self-assessment of his appearance is positively correlated with wife's self-assessment of her appearance.
- H<sub>4-2a</sub>: Husband's actual evaluation of wife's appearance significantly affects wife's self-assessment of her appearance.
- H<sub>4-2b</sub>: Wife's actual evaluation of husband's appearance significantly affects husband's self-assessment of her appearance.
- H<sub>4-3</sub>: Husband's actual evaluation of wife's appearance is positively correlated with wife's actual evaluation of husband's appearance.

### **CHAPTER 3: METHOD**

The following chapter includes procedures of development of a survey questionnaire, data collection, and data analysis. A questionnaire was designed to measure variables related to body image, various appearance management practices such as exercise, dieting, use of anti-aging products and techniques, daily grooming, and expenditures on apparel, aging-related physical changes, self-assessed health, marital relationship, cognitive age, and various mood states. The questionnaire was developed on the basis of previous literatures on aging process, body image, appearance management, and marital relationship. Items were included to examine spousal interdependence in the perception of physical appearance in marital dyads.

#### **Questionnaire Development**

The survey questionnaire for husband and wife were identical except for gender-specific wordings. Care was taken to arrange measures beginning with a fairly simple and gender-neutral measure that would apply to all participants. The order of the measures were as follows: Exercise, body image, marital relationship, mood states, self-assessed health, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping and expenditures, aging-related physical changes, and demographic information. After the final section containing a number of demographic items, one open-ended item asked participants to comment on topics not addressed adequately by the questionnaire. A copy of the final questionnaire is in Appendix B. On the cover of the questionnaire, participants were asked not to consult with their spouse in order to avoid influence of their responses by their spouse.

#### **Measures of body image**

The Multidimensional Body-Self Relations Questionnaire (Cash, 1994) was used to measure body image. The Multidimensional Body-Self Relations Questionnaire consists of 69 items designed to measure attitudinal and cognitive aspects of body image. The Multidimensional Body-Self Relations Questionnaire includes subscales for three somatic domains of physical appearance, physical fitness, and health (or illness). The

Multidimensional Body-Self Relations Questionnaire items reflect two conceptual dimensions of body image: (1) the extent of liking, attainment, and satisfaction of each domain (Appearance Evaluation, Fitness Evaluation, and Health Evaluation) and (2) the degree of cognitive importance of and attention paid to each domain as well as behavioral involvement to improve these domains (Appearance Orientation, Fitness Orientation, Health Orientation, and Illness Orientation). Additionally, the Multidimensional Body-Self Relations Questionnaire includes the Body Area Satisfaction Scale which measures one's satisfaction or dissatisfaction with specific body parts. The primary scales of interest in this study were Appearance Evaluation, Appearance Orientation, and Body Area Satisfaction.

The Appearance Evaluation scale included six items assessing feelings of physical attractiveness and satisfaction with one's overall physical appearance. Sample items include "I like my looks just the way they are" and "Most people would consider me good-looking". Participants responded to the items on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). High scores indicate positive feelings toward and satisfaction with the body and appearance, while low scores indicate negative feelings toward and dissatisfaction with the body and appearance.

The Appearance Orientation scale was made up of 12 items measuring the extent to which people place importance on how they look and are oriented to extensive appearance-related activities. Sample items include "Before going out in public, I always notice how I look", "I check my appearance in a mirror whenever I can", and "I am self-conscious if my grooming isn't right". The items were rated on a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Higher scorers believe that how they look is more important and are more oriented to appearance-related behaviors to look good than do lower scorers.

The Body-Areas Satisfaction scale consisted of seven items tapping satisfaction with specific aspects or parts of one's body (face, hair, lower torso, upper torso, muscle tone, weight, and height). Participants rated their satisfaction with each body part on a five-point scale ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied). Higher scores indicate more satisfaction with one's own body.

Brown et al. (1990) found that internal consistencies (Cronbach's *alpha*) for the Appearance Evaluation scale and the Appearance Orientation scale were .88 and .84 for females and .88 and .88 for males. The Body-Areas Satisfaction scale was also found to be a reliable and valid measure for body image (Cronbach's *alpha* = .74 for females; .77 for males; Cash, 1994). Maximin (1989) used the Multidimensional Body-Self Relations Questionnaire in a study examining body image of older individuals and found that the Appearance Evaluation scale and the Appearance Orientation scale had satisfactory internal consistencies with Cronbach's *alpha* of .80 and .82, respectively.

### **Measures of attractiveness**

Self-assessment of attractiveness was measured by two statements. First, participants indicated how physically attractive they saw themselves on a five-point scale ranging from 1 (extremely unattractive) to 5 (extremely attractive). Second, they indicated how pleased they were with their physical appearance on a five-point scale ranging from 1 (extremely displeased) to 5 (extremely pleased). Higher scores indicate more positive evaluation of one's own attractiveness. These measures of attractiveness were developed by Wilcox (1997). These two items were entered into factor analysis with items of three subscales of the Multidimensional Body-Self Relations Questionnaire.

Participants were asked to indicate perceptions of their spouses' physical attractiveness and satisfaction with their spouses' physical appearance on a five-point scale ranging from 1 (extremely unattractive or extremely displeased) to 5 (extremely attractive or extremely pleased). Values on these two items were summed and averaged to create a composite score for *evaluation of spouse's attractiveness*. Finally, participants responded to items measuring perceptions of how their spouses would evaluate their physical attractiveness and how their spouses would be pleased with their physical appearance. These items were also measured on the same five-point scales. Values of these two items were summed and averaged to create a composite score for *perceived attractiveness*.

### **Appearance management practices**

Five types of appearance management practices were of interest in this study including exercise, dieting, use of anti-aging products and techniques, daily grooming, and apparel shopping and expenditures.

#### **Exercise**

To measure participants' involvement in exercise, 12 different types of exercise items were asked. For each exercise type, participants responded to two questions: (1) "How often do you exercise a week?" and (2) "How long do you exercise each time?" The former was rated on a four-point scale with 1 (never) and 4 (4+ times). The latter was rated on a four-point scale ranging from 1 (1 -14 minutes) to 4 (more than 45 minutes). Sample items included brisk walking, jogging, aerobics, and golf. These items were adopted from the Yale Physical Activity Survey for Older Adults developed by Dipietro, Caspersen, Ostfeld, and Nadel (1993). For each exercise type, scores on a frequency question and a duration question were multiplied. Multiplied scores on the 12 exercise items were summed and used to construct a score for *exercise*. Higher scores indicate more involvement in exercise.

#### **Dieting**

The Cognitive Behavioral Dieting Scale developed by Martz et al., (1996) was used to measure current dieting behavior and related thoughts within the past two weeks. Among 14 original items, two items asking the level of and the motif for exercise were omitted because of overlap with the exercise measure. The remaining 12 items were rated on a five-point scale with 1 (never) and 5 (always). Example items included "Within the past two weeks, I have felt fat", "I have planned out what I am allowed to eat for the day", and "I am skipping meals to help me lose weight". The Cronbach's *alpha* of the scale was .95 (Martz et al., 1996). Higher scores indicate greater involvement in dieting especially for weight control.

#### **Use of anti-aging products and techniques**

Participants were asked (1) whether they had used certain products or engaged in certain techniques in the last 12 months. Example products included cosmetics to cover wrinkles, anti-aging skin products, anti-aging drugs, vitamins, or hormones, sunblock or sunscreen with high SPF, and slenderizing or control undergarments. Example techniques

included coloring hair, wearing a wig, receiving hair transplants, and having cosmetic surgery such as face-lift, liposuction, or tummy tuck cosmetic surgery. A total of 16 items chosen for this study have been identified as anti-aging products or aging concealment techniques employed by the older population (Braus, 1995; Harris, 1994). If an item was checked, then it was coded 1; if an item was not checked, it was coded 0. Values on the 16 items were summed to construct a composite score for *use of anti-aging products and techniques*. Higher scores indicate greater use of anti-aging products and techniques by older participants.

### **Daily Grooming**

One question was developed to measure how much time participants spent on grooming for a typical day. Grooming includes shaving, putting on make-up, hair styling, or dressing. Participants responded to the question on a five-point scale ranging from 1 (15 minutes or less) to 5 (1 hour or more). This item was labeled *daily grooming*.

### **Apparel shopping and expenditures**

Two statements were developed to measure involvement in apparel shopping in terms of money and time. First, participants indicated how much time they spent on apparel shopping either for actual buying or looking for apparel products during a typical month on a scale ranging from 0 to 10 hours or more. Second, participants indicated how much they spent on their new apparel and shoes and apparel services during the last 12 months on a scale ranging from 1 (\$50.00 or less) to 9 (\$1,000 or more). The first item was named *apparel shopping*; the second item was *apparel expenditures*.

### **Aging-related physical changes**

Aging-related physical changes were categorized into two groups: (1) changes in physical appearance (posture, decrease of height, weight gain, weight loss, face, hair, skin, and body composition) and (2) decrease/loss of function (hearing, eye sight, breathing, strength or endurance, joint, flexibility, or balance, constipation, and frequent or accidental urination). Participants were asked to check items they had noticed recently. If an item was checked, it was coded 1; if an item was unchecked, it was coded 0. Scores of all items were summed for later statistical analyses. Higher scorers experienced more aging-related changes

of the body and lower scorers experienced fewer changes. This variable was labeled *physical changes*.

Additionally, participants were asked to indicate how much change in the body associated with aging affected their feelings about themselves on a five-point scale with 1 (not at all) and 5 (extremely). This item was developed by Passman (1995). This item was named *effect of physical changes*.

### **Self-assessed health**

Self-assessed health status was measured by four statements. Participants responded to items asking how many times they had seen a doctor or they were unable to perform daily routine tasks due to a health problem during the last six months on a five-point scales with 1 (none) and 5 (more than 10 times). The third question stated, "On a scale of 0 to 10 indicating a range of health from very poor to excellent health, indicate the number which best represents your health". Finally, participants were asked to indicate their health in comparison to other people their age on a five-point scale ranging from 1 (much worse) to 5 (much better). These items were developed by Passman (1995). Values on these items were standardized, summed, and averaged to construct participants' self-assessment of health status. This variable was labeled *self-assessed health*.

### **Marital relationship**

Three measures used to assess how people felt about their marital relationship were as follows: The Kansas Marital Satisfaction scale (Schumm, Milliken, Poresky, Bollman, & Jurich, 1983), the Quality Marriage Index (Norton, 1983), and the Marital Instability Index (Booth, Johnson, & Edwards, 1983). Use of multidimensional measures was recommended to measure overall qualities of the relationship (Johnson, Amoloza, & Booth, 1992). Constructs of marital satisfaction, global evaluation of marital relationship, and marital stability were of interest in this study.

The Kansas Marital Satisfaction scale consisted of three items assessing participants' satisfaction with their marriage, their spouses, and relationship with their spouses. Participants rated items on a five-point scale ranging from 1 (strongly dissatisfied) to 5 (strongly satisfied).

The Quality Marriage Index was developed to measure global evaluation of the marital relationship as a whole (Norton, 1983). Five items were rated on a five-point Likert scale ranging from 1 (strongly disagree) and 5 (strongly agree). Sample questions were as follows: “Our marriage is strong”, “My relationship with my partner makes me happy”, and “I really feel like part of a team with my partner”. Included was one item measuring overall happiness on a seven-point scale ranging from 1 (extremely unhappy) to 7 (perfect).

For the three items of the Kansas Marital Satisfaction scale and the six items of the Quality Marriage Index combined, Cronbach’s *alpha* has been found to be .95 for wives, .90 for husbands, and .93 for the total sample (Calahan, 1996). These measures were found internally consistent in assessing the self-reported global evaluation of marital relationship.

Marital instability refers to propensity to dissolve an existing marriage (Booth et al., 1983). Five items were used in this study to assess a concept of marital instability. Examples were: “Ever seriously suggested the idea of divorce”, “Discussed divorce or separation with a close friend”, and “Talked with your spouse about consulting an attorney about a possible divorce or separation”. Possible responses to the statements were: 1 (not in the last year), 2 (within the last year), 3 (within the last 6 months), and 4 (within the last 3 months). Booth et al. (1983) reported a Cronbach’s *alpha* of .75 for the five item scale. Lower scores indicate greater stability with marriage. The items measuring marital stability were recoded, so higher scores indicated higher stability before entered into data analysis.

### **Cognitive age**

Cognitive age is a participants’ self-report of their age status: how old they seem to themselves (Kastenbaum, Derbin, Sabatini, & Artt, 1972). Barak’s (1987) cognitive age measure was used to measure participants’ cognitive age. Participants indicated the specific age decade from 20s to 80s in which they felt they really belonged on the four dimensions -- feel/age, look/age, do/age, and interest/age. Scores on the four items were summed and averaged to compute a score for *cognitive age*. Barak (1987) reported a Cronbach’s *alpha* of .91 for the measure of cognitive age.



### **Mood states**

The Profiles of Mood States scale has become one of the most popular and widely used measures among currently available multidimensional mood-state inventories (Boyle, 1987). A shortened version of the Profiles of Mood States developed by Shacham (1983) was used to assess participants' transient but distinct mood states. Compared to the original scale containing 65 adjectives, a shortened version of the Profiles of Mood States included 37 adjectives. The correlation coefficients between the shortened and original scales were all above .95 indicating that the shortened version is an excellent alternative to the original scale when a brief measure of mood is desired (Curran et al., 1995; Shacham, 1983).

Participants indicated the degree to which each adjective described their feelings during the last week using a five-point scale with 1 (not at all) and 5 (extremely). Based on repeated factor analytic studies (Curran et al., 1995; McNair, Lorr, & Droppleman, 1981; Shacham, 1983), six factors have been derived including Vigor, Tension, Depression, Anger, Confusion, and Fatigue. Sample adjectives in each factor are: Vigor (active, energetic, full of pep, lively, carefree, and vigorous), Tension (on edge, tense, nervous, uneasy, anxious, and restless), Depression (unhappy, sad, worthless, hopeless, miserable, discouraged, and blue), Anger (angry, peeved, resentful, furious, annoyed, and grouchy), Confusion (forgetful, bewildered, uncertain about things, confused, and unable to concentrate), and Fatigue (weary, worn-out, fatigued, exhausted, and bushed). Curran et al. (1995) found the six factors to have high reliability ranging between .81 and .95.

### **Personal information**

Participants were asked to give personal information: year of birth, sex, years in current marriage, occupational status, years since retirement, ethnicity, years of education received, and annual household incomes before taxes.

## **Data Collection**

### **Pretest**

The preliminary survey was given to three academic experts in the field of gerontology and textiles and clothing to examine content-related evidence of validity of the

questionnaire. Suggestions were made on clarity of wording for several questionnaire items and format of the questionnaire. Appropriate changes were made accordingly.

The revised survey was pretested with two older married couples who resided in a retirement community in central Iowa. After an initial contact with an administrator, the researcher visited the retirement community during a resident meeting, and two couples volunteered to participate in a pretest. They were asked to note any questions or comments with regard to the content, wording, format, and overall understanding of the questionnaire. The researcher was present to measure the length of time required to complete the survey and to answer questions raised by pretest respondents. The questionnaire was revised accordingly, and the final questionnaire was developed.

### **Sample**

A list of 900 married couples, aged 60 and older, residing in an independent dwelling, and living in three metropolitan areas in Florida, was purchased from a mailing company located in a midwestern state. Three metropolitan areas in Florida were chosen because the proportion of people aged 60 and older in three Florida cities was the highest across the nation (U. S. Bureau of the Census, 1994). A total of 600 married couples randomly selected from the list of 900 married couples were contacted via telephone. A total of 523 couples declined to participate in this study, and 77 couples were not reached. The majority of the couples who refused said that they did not want to share their personal feelings and experiences with others or that they never did any survey (88%); some couples declined because one of spouses refused to participate or was unavailable (12%). Finally, a total of 194 married couples agreed to participate in this study. These couples were given a brief explanation of the study. After explaining the purpose of the survey, the respondent was asked whether he or she was living with a spouse and whether both of them would complete a mailed survey. Questionnaires were sent to married couples who lived together and were interested in participating in this study.

### **Procedures**

After gaining approval from respondents, a cover letter, two self-administered questionnaires -- one for the husband and the other for the wife -- and a self-addressed

stamped envelope were mailed to those who agreed to participate in the study. A follow-up postcard reminder was sent to each household one week after the first mailing was sent. Finally, the third mailing including a letter, a set of questionnaires, and a self-addressed stamped envelope was sent to those who had not responded by the third week from the first mailing. The researcher followed the guidelines of Salant and Dillman's (1994) total design method throughout the data collection procedures.

### **Data Analysis**

This study was designed to examine if body image would explain involvement in various appearance management practices employed by older married couples. It was also intended to explore relationships among body image, aging-related variables, relationship-related variables, psychological variables, and demographic characteristics. Data analysis was conducted using SAS (Version 6.12). Data completed by both spouses was entered for analysis. Items (hq7\_16 and wq7\_16 in the code book, Appendix C) of the Appearance Evaluation scale, items (hq7\_10, hq7\_13, hq7\_14, hq7\_16, hq7\_17, wq7\_10, wq7\_13, wq7\_14, wq7\_16, and wq7\_17) of the Appearance Orientation scale, items (hq14\_1, hq14\_2, wq14\_1, and wq14\_2) of the self-assessed health measure, and all items of the Marital Instability Index (hq12\_1 - hq12\_5 and wq12\_1 - wq12\_5) were inversely recoded to improve internal consistencies of the scales.

### **Preliminary data analyses for main study**

Principal components factor analysis was used to find separate dimensions within measures of body image, marital relationship, mood, and dieting. Principal components method was used to extract factors. Varimax rotation was used for body image, marital relationship, and dieting. Oblique rotation was used for mood states. The minimum number of factors comparable with the data was determined by eigenvalue criterion and scree-test (Kim & Mueller, 1978). Items were considered to be highly loaded on a factor if it was equal to or greater than .50 on the given factor and no greater than .40 on any other factor (Manly, 1994).

In order to assess reliabilities of the measurement scales, a test of internal consistency (Cronbach's *alpha*) was conducted for all measurement scales with a single dimension and factors identified from the factor analyses. Items lowering internal consistency were eliminated. Finally, remaining items in factors and measurement scales were averaged or summed to create composite scores of the variables for hypothesis tests.

Descriptive statistics for all variables were computed including means, medians, variances, standard deviations, and skewness. Pearson's product moment correlation was used to determine whether there was some predictability about the relationships between pairs among all variables.

### ***T* test**

Since there was a natural pairing of the data (husbands and wives), paired comparisons using the *t* test were used to compare husband's scores on the measures of body image, appearance management practices, aging-related variables, relationship-related variables, self-assessed health, cognitive age, mood states, and demographic information with those of the wife in the marital dyad. In this study, the critical probability ( $\alpha$ ) was set at 0.05 because it has been chosen as a compromise between two types of error when deciding to reject or to support the null hypothesis (Clark-Carter, 1997).

### **Multiple regression**

Multiple regression was used to examine how measures of body image could explain older men's and women's engagement in appearance management behaviors. Multiple regression analysis was also used to examine how measures of body image were explained by a set of independent variables. Separate multiple regression analyses were performed for the men's and the women's data.

In the multiple regression analyses predicting measures of body image, hierarchical multiple regression analysis was conducted, in which independent variables were entered cumulatively in a prearranged order, which was determined by the researcher based on the conceptual association between variables suggested from the review of previous literature. Hierarchical multiple regression analyses allowed the researcher to test whether the

increments in  $R^2$  due to the addition of independent variables to a regression equation higher in hierarchy were significant (Cohen & Cohen, 1983).

In running multiple linear regression models, the problem of multicollinearity among independent variables was detected by examining the variance-inflation factor (VIF), the condition index ( $k$ ), and the tolerance values for each independent variable. To improve accuracy in inferences of the parameter estimates in linear regression models, regression diagnostics were conducted to explore any violations of assumptions of regression analysis - outliers or influential data point, non-normality of residuals, heterogeneity of error variances, and nonlinearity.

### **Structural equation modeling**

Structural equation modeling was used to analyze a model of spousal interdependence in appearance perception of marital dyads. Structural equation modeling was chosen because it allows the researcher to examine husband's and wife's reciprocal interaction in their perception of the body and appearance. This analysis was performed using LISREL VII (Jöreskog & Sörbom, 1989). Three nested models were tested to examine whether a correlation between husbands' and wives' self-assessment of appearance was explained by two partners' coorientation effects. In evaluating specific parameter estimates, if a  $t$  value associated with a path coefficient was greater than 2, the path coefficient was considered significant.

### **Approval of the Use of Human Subjects**

Before initiating telephone contact to respondents, a proposal of the study and the survey questionnaire were submitted to the Human Subject Review Committee (HSRC) at Iowa State University (see Appendix D). The HSRC approved the use of human subjects for this study after determining that this study protected respondents' rights and welfare, information provided by respondents would be kept confidential, and there were no physical risks or mental discomforts associated with participating in the study.

## **CHAPTER 4: FINDINGS AND DISCUSSION**

This chapter consists of two parts: the various preliminary analyses conducted prior to primary data analyses and results of data analyses including discussion of hypotheses. Preliminary data analyses included an examination of response rate, data cleaning, respondent sample description, factor analyses, reliability of multi-item measures, descriptive statistics, and correlation analysis. For primary data analyses, paired comparisons *t* tests were used to examine if responses on the research variables differed between older men and women. Multiple regression analysis was also used to examine relationships among body image measures and various appearance management activities undertaken by older men and women. To examine how well the measures of body image were explained by the variables of interest in this study (aging- related, relationship-related, and psychological variables), hierarchical multiple regression analyses were performed separately for men and women. Finally, structural equation modeling was used to test a model pertaining to older husbands' and wives' interdependence in perception of appearance.

### **Preliminary Analyses**

#### **Response rate and participant description**

Among 194 married couples to whom the researcher sent survey questionnaires after gaining permission via telephone, 129 married couples returned the questionnaire after three mailing attempts. Return rates of both usable and unusable questionnaires were 66.5%, with a usable rate of 48.4% ( $N = 94$  couples). Cases were considered usable when both husband and wife completed at least 65% of the questionnaires and both were over 60 years old. Frequency tables for all items were generated to detect data points that were out of the range of responses expected.

The overall demographic information of participants is shown in Table 4.1. One of the particular interests in this study was gender differences in body image, other aging-related variables, and engagement in appearance management practices. For cross-comparisons between men and women, all statistics were calculated separately for men and women.

Table 4.1. Demographics of study participants

Variables	<u>Men (N = 94)</u>		<u>Women (N = 94)</u>	
	Frequency <sup>a</sup>	% <sup>b</sup>	Frequency <sup>a</sup>	% <sup>b</sup>
Age (years)				
60 - 69	20	21.3	34	36.2
70 - 79	52	71.7	47	50.0
80 - 89	14	12.8	12	2.7
90 above	2	2.1	1	1.1
Highest level of education received				
Some high school or less	6	6.7	4	4.3
Graduated high school or equivalent	10	11.1	24	25.8
Some college / vocational or technical school	24	26.7	33	35.5
Graduated college	14	21.1	13	14.0
Some point graduate or professional school	10	11.1	9	9.7
Received a graduate or professional degree	21	22.3	10	10.8
Present occupational status				
Working full-time, paid	4	4.3	6	6.9
Working part-time, paid	5	5.4	6	6.9
Working full-time, unpaid	1	1.1	2	2.2
Retired	82	89.1	63	72.4
If retired, years since the retirement				
1 - 9	25	29.1	22	35.5
10 - 19	43	50.0	22	35.5
20 - 29	16	11.9	13	20.9
30 above	2	2.3	5	8.1
Ethnic identity				
White or European Ethnicity	87	94.6	86	95.6
Black or African American	0	0.0	1	1.1
Native American	5	5.4	3	3.3
Incomes before taxes				
\$10,000 - \$14,999	1	1.3	3	4.3
\$15,000 - \$24,999	11	14.7	7	10.0
\$25,000 - \$34,999	16	21.3	15	21.4
\$35,000 - \$49,999	16	21.3	15	21.4
\$50,000 - \$74,999	17	22.7	15	21.4
\$75,000 - \$99,999	4	5.3	7	10.0
\$100,000 - \$149,999	6	8.0	6	8.6
\$150,000 or more	4	5.3	2	2.8

<sup>a, b</sup> Some total count and percentage values don't equal 94 and 100, respectively due to non-responses.

Husbands ranged in age from 60 to 95, with an average age of 74.65 years ( $SD = 6.29$  years); wives ranged in age from 60 to 90, with an average age of 72.12 years ( $SD = 6.53$  years). The majority of the participants were retired (husbands - 89.1%; wives - 72.4%) and white, European ethnicity (husbands - 94.6%; wives - 95.6%). Responses from husbands and wives on years in the current marriage and annual incomes corresponded to each other. The average length of living with a current spouse was 43.6 years. The average incomes from all sources before taxes was between \$35,000 and \$49,999.

### **Factor analysis**

Exploratory factor analysis was used to uncover underlying common themes for items in the measures of body image, dieting, marital relationship, and mood states. After examining items highly loaded on factors, the researcher labeled factors to represent underlying dimensions. Factor analysis allowed the researcher to reduce multiple items into a smaller number of latent constructs.

#### **Measures of body image**

The factor analysis of 26 items in the three subscales of the Multidimensional Body-Self Questionnaire and two additional items assessing attractiveness provided two factors best describing relationships among items for both men and women (see Table 4.2). A two-factor solution was most satisfactory for incorporating both men's and women's responses. For men, the first factor, *Appearance Attitude*, was made up of 13 items that measured self-assessed attractiveness, acceptance of physical appearance, and satisfaction with specific body parts. The second factor, *Appearance Orientation*, consisted of 11 items that assessed the degree of attitudinal involvement in appearance-related activities and importance placed on a well-maintained appearance. For women, *Appearance Attitude* included 11 items similar to those found in the Appearance Attitude for men. *Appearance Orientation* included six items similar to part of men's items.

The factor analyses indicated that satisfaction with some body parts contributed to participants' overall evaluation of their bodies and appearance. The Body-Areas Satisfaction scale and the Appearance Evaluation subscale have been used as separate measures in previous studies (Brown et al., 1990; Keeton et al., 1990). However, high inter-item



Table 4.2. Factors from Body Image

Factor titles and Items	Factor Loadings	
	<u>Men</u>	<u>Women</u>
<b>Appearance Attitude</b>		
• Most people would consider me good-looking.	.65	
• My body is sexually appealing.*	.55	.70
• I like the way my clothes fit me.*	.58	.83
• I like my looks just the way they are.*	.60	.78
• I like the way I look without my clothes on.*	.63	.75
• I see myself physically attractive.*	.61	.53
• I am pleased with my physical appearance.*	.67	.80
• I am satisfied with face (facial feature, complexion).	.57	
• I am satisfied with lower torso (buttocks, hips, thighs, legs).*	.69	.68
• I am satisfied with mid torso (waist, stomach).*	.72	.78
• I am satisfied with upper torso (chest, shoulders, arms).*	.71	.69
• I am satisfied with muscle tone.*	.78	.67
• I am satisfied with weight.*	.71	.72
Eigenvalue	7.15	6.76
Variance explained	5.85	5.97
Cronbach's <i>alpha</i>	.90	.91
<b>Appearance Orientation</b>		
• I don't care what people think about my appearance.	.55	
• I take special care with my hair grooming.	.61	
• I never think about my appearance.	.53	
• I am self-conscious if my grooming isn't right.	.70	
• I am always trying to improve my physical appearance.	.66	
• Before going out in public, I always notice how I look.*	.60	.82
• I am careful to buy clothes that will make me look my best.*	.77	.74
• I check my appearance in a mirror whenever I can.*	.56	.63
• Before going out, I usually spend a lot of time getting ready.*	.51	.70
• It is usually important that I always look good.*	.59	.73
• I usually wear whatever is handy without caring how it looks.*	.57	.57
Eigenvalue	3.28	2.51
Variance explained	4.59	3.30
Cronbach's <i>alpha</i>	.86	.80

\* indicates items used to create a composite score for each factor.

correlations among items in the Appearance Evaluation subscale and the Body-Areas Satisfaction scale suggested that they may measure a similar construct. Wilcox (1997) also found a high correlation between these two subscales. To create equivalent scale scores for men and women, only items heavily loaded on factors both for men and women were summed and averaged to construct scores for the two factors identified from the factor analysis (see Table 4.2).

### **Dieting**

One factor labeled *Dieting* was extracted from the 12 Cognitive Behavioral Dieting Scale items. For men and women, Dieting consisted of 10 items with loadings greater than .50 (see Table 4.3). The items included assessed participants' cognitive intention to diet and engagement in dieting behavior to control weight. Items commonly included for both men and women were summed and averaged to construct a score for Dieting.

### **Marital relationship**

The factor matrix of the 15 items from the three measures of marital relationship showed two factors with eigenvalues greater than 1.00 for both men and women. The first factor, *Marital Quality*, included 9 items of the Marital Satisfaction scale and the Marital Quality Index. The Second factor, *Marital Instability* included items of the Marital Instability Index. However, due to sizable missing cases and lack of variance associated with items in the Marital Instability Index, the second factor was dropped from the data analysis. The Marital Satisfaction scale and the Marital Quality Index combined describes a satisfactory and happy marriage. All items in Marital Quality were standardized, summed, and averaged to be used in further analysis (see Table 4.4).

### **Mood states**

A six factor solution was derived from factor analysis of the 37 Profiles of Mood States items (see Table 4.5). Unlike other factor analyses, an oblique rotation was used to be consistent with the original factor analytic studies. Underlying factors were identical for husbands and wives with slight differences in inclusion of items for each factor. Factors were labeled Vigor, Anger, Fatigue, Tense, Depression, and Confusion. These six factor structures parallel those found by Kaye, Lawton, Gitlin, Kleban, Windsor, and Kaye,

Table 4.3. Factor from Dieting

Factor Title and Items	Factor Loadings	
	Men	Women
Dieting		
• I have felt fat.*	.55	.60
• I have planned out what I am allowed to eat for the day.*	.61	.64
• I have tried to reduce my calorie consumption for weight control.*	.85	.83
• I have restricted my calorie intake to help me lose weight.*	.88	.82
• I have felt guilty about something I ate.*	.73	.67
• I have been dieting to help control my weight.*	.78	.81
• I have made food choices based on how I feel about my weight.*	.82	.80
• I have believed that dieting is good for my health.*	.73	.70
• I'd have eaten much differently if I had not been concerned about my weight.*	.73	.69
• I have used nutritional labels on foods to determine if I eat a certain food or not.	.61	
• I have eaten foods that I don't prefer, just because they are low in calories.		.50
Eigenvalue	5.40	5.07
Variance explained	5.40	5.07
Cronbach's <i>alpha</i>	.91	.89

\* indicates items used to create a composite score for each factor.

(1988) with older adults. However, differences in the combinations of variables in some factors between men and women led to further examination of correlation coefficients of variables. In particular, variables in Anger, Tense, and Depression have been used to measure psychological distress (Mirowsky & Ross, 1989). After examining correlations among variables in Anger, Tense, and Depression, variables in these three factors were combined into one factor labeled *Psychological Distress*. Items included in Psychological Distress are listed in Table 4.6. Finally, it was decided that instead of using six factors suggested by the results of factor analysis, the three factors *Vigor*, *Fatigue*, and *Psychological Distress* were used for further data analysis. For this study, the last factor, Confusion was excluded from further data analyses due to inconsistent association with items in other factors.

Table 4.4. Factor from Marital Relationship

Factor Title and Items	Factor Loadings	
	<u>Men</u>	<u>Women</u>
Marital Quality		
How satisfied are you with...		
• Your marriage	.86	.93
• Your wife (husband) as a spouse.	.80	.94
• Your relationship with your spouse.	.91	.95
How strongly do you agree that...		
• We have a good marriage.	.95	.95
• My relationship with my partner is very stable.	.92	.90
• Our marriage is strong.	.92	.92
• My relationship with my partner makes me happy.	.95	.90
• I really feel like part of a team with my partner.	.92	.90
The degree of happiness of your relationship	.78	.87
Eigenvalue	8.60	7.93
Variance explained	7.78	7.63
Cronbach's <i>alpha</i>	.97	.97

### Reliability of measures

A test of internal consistency was performed for scale measures used in further analyses. Items which were heavily loaded on the factors both for husbands and wives were only included to compute *alpha* coefficients. Cronbach's coefficient *alpha* was calculated to measure internal consistency of the scales since it is the most widely referenced measure of scale reliability (Peterson, 1994). As shown in Table 4.7, all measures had adequate to good internal consistency. The minimally acceptable reliability for this study was .70 (Nunnally, 1978; Peterson, 1994). These high reliabilities for measures provided evidence of construct validity.

### Descriptive statistics

For all measures and factors used in the study, means, medians, and standard deviations were calculated for men and women separately. Table 4.8 shows a summary of the means and standard deviations for the variables for men and women. Skewnesses of variables suggested that the responses on the variables were normally distributed. To check

Table 4.5. Factors from Mood States

Factor titles and Items	Factor Loadings	
	<u>Men</u>	<u>Women</u>
<b>Vigor</b>		
• Active	.89	.86
• Energetic	.89	.81
• Full of pep	.94	.93
• Lively	.97	.95
• Carefree	.90	.88
• Vigorous	.86	.94
Eigenvalue	10.03	8.71
Variance explained	3.73	4.59
Cronbach's <i>alpha</i>	.96	.96
<b>Fatigue</b>		
• Exhausted	.93	.90
• Fatigued	.99	.91
• Weary	.83	.87
• Worn-out	.71	.88
• Bushed	.78	.86
Eigenvalue	1.96	3.41
Variance explained	2.41	3.47
Cronbach's <i>alpha</i>	.94	.94
<b>Confusion</b>		
• Uncertain about things	.83	
• Bewildered	.91	.64
• Confused		.83
• Unable to concentrate		.76
• Worthless		.63
• Forgetful		.52
Eigenvalue	.97	1.92
Variance explained	1.37	2.53
Cronbach's <i>alpha</i>	.75	.79
<b>Tense</b>		
• Tense	.71	.67
• Nervous	.76	.76
• On edge		.52
• Uneasy		.83
• Anxious		.85

Table 4.5. (continued)

Factor titles and Items	Factor Loadings	
	<u>Men</u>	<u>Women</u>
Eigenvalue	1.48	2.72
Variance explained	1.28	2.67
Cronbach's <i>alpha</i>	.93	.87
Depression		
• Helpless	.91	
• Hopeless	.86	.55
• Unhappy		.52
• Sad		.68
• Blue		.88
Eigenvalue	1.29	1.55
Variance explained	1.47	2.04
Cronbach's <i>alpha</i>	.86	.73
Anger		
• Furious	.88	.80
• Bitter	.88	.90
• Grouchy	.64	.59
• Angry	.93	.53
• Peeved	.84	.67
• Resentful	.77	.88
• Annoyed		.59
Eigenvalue	4.22	4.72
Variance explained	3.00	3.51
Cronbach's <i>alpha</i>	.93	.86

Table 4.6. Variables in the Psychological Distress factor.

Furious	Annoyed	Bitter	Unhappy
Grouchy	Angry	Peeved	Sad
Resentful	On edge	Tense	Blue
Nervous	Uneasy	Anxious	
Cronbach's <i>alpha</i> : .96 (men), .88 (women)			

Table 4.7. Cronbach's *alphas* for all scale measures

Variable	Number of items	Cronbach's <i>alpha</i>	
		<u>Men</u>	<u>Women</u>
Appearance attitude	11	.88	.91
Appearance orientation	6	.78	.80
Evaluation of spouse's attractiveness	2	.76	.80
Perceived attractiveness	2	.85	.85
Marital quality	9	.97	.97
Vigor	6	.96	.96
Psychological distress	15	.96	.88
Fatigue	5	.94	.94
Cognitive age	4	.86	.89
Self-assessed health	4	.81	.75
Dieting	9	.91	.90

for outliers and suspicious influential data points, all measures were plotted against the body image factor, Appearance Attitude, separately for men and women. No outliers or influential data points were found from examining plots.

### Correlation Analysis

Pearson product moment correlation provided an estimation of underlying relationships between pairs of the 18 variables. Correlation matrices of the variables for men and women are shown in Table 4.9 and 4.10. Correlations between demographic variables (age, years of education received, and incomes) and the study variables were examined to determine if these demographic variables would have influence on outcomes of the study (see Table 4.10 & 4.11). Occupational status and ethnicity were not included in correlation analysis due to lack of variability in the responses.

### Age

For men, age was correlated positively with cognitive age ( $r = .71, p = .0001$ ) and negatively with vigor ( $r = -.30, p = .005$ ), exercise ( $r = -.29, p = .005$ ), dieting ( $r = -.34, p = .001$ ), and apparel expenditures ( $r = -.39, p = .0002$ ). For women, age had a positive relationship with cognitive age ( $r = .72, p = .0001$ ) and a negative relationship with self-

Table 4.8. Means and Standard Deviations for all measures

Variable	Men		Women		<i>t</i> <sup>5</sup>
	Mean	SD	Mean	SD	
Appearance attitude <sup>a</sup>	3.14	0.55	2.88	0.72	3.25**
Appearance orientation <sup>b</sup>	3.29	0.54	3.70	0.58	-5.31***
Evaluation of spouse's attractiveness <sup>c</sup>	3.78	0.76	3.56	0.88	1.96
Perceived attractiveness <sup>d</sup>	3.38	0.72	3.53	0.81	-1.97
Marital quality <sup>e</sup>	0.00	0.89	0.00	0.91	0.26
Vigor <sup>f</sup>	2.97	0.92	3.16	0.86	-1.53
Psychological distress <sup>g</sup>	1.43	0.57	1.42	0.44	0.27
Fatigue <sup>h</sup>	1.71	0.77	1.73	0.84	0.00
Cognitive age <sup>i</sup>	5.01	0.79	4.64	0.84	4.93***
Self-assessed health <sup>j</sup>	0.00	0.79	0.00	0.75	0.01
Physical changes <sup>k</sup>	4.71	2.78	5.28	3.13	-1.65
Effect of physical changes <sup>l</sup>	2.21	0.78	2.57	0.88	-3.40***
Exercise <sup>m</sup>	13.47	10.15	14.63	13.13	-0.72
Use of anti-aging products/techniques <sup>n</sup>	0.88	0.93	4.03	1.98	-15.27***
Dieting <sup>o</sup>	2.12	0.81	2.54	0.87	-3.65***
Daily Grooming <sup>p</sup>	1.69	0.71	1.95	0.72	-2.68**
Apparel shopping <sup>q</sup>	1.65	1.61	3.79	2.79	-6.97***
Apparel expenditures <sup>r</sup>	3.61	1.99	4.57	2.20	-4.60***

<sup>a</sup> Averaged scores: range 1 to 5; higher scores indicate more positive appearance evaluation.

<sup>b</sup> Averaged scores: range 1 to 5; higher scores indicate more engagement in appearance-related activities.

<sup>c</sup> Averaged scores: range 1 to 5; higher scores indicate more favorable evaluation of spouse's attractiveness.

<sup>d</sup> Averaged scores: range 1 to 5; higher scores indicate more positive perception of spouse's appraisals of participants' attractiveness.

<sup>e</sup> Averaged scores: range -3.68 to 0.81; higher scores indicate satisfactory and happy marriage.

<sup>f-h</sup> Averaged scores: range 1 to 5; higher scores indicate greater vigor, psychological distress, and fatigue.

<sup>i</sup> averaged scores: range 1 to 7; higher scores indicate older age.

<sup>j</sup> averaged scores: range -2.35 to 1.25; higher scores indicate better health.

<sup>k</sup> summed scores: range 0 to 16; higher scores indicate more changes on body perceived.

<sup>l</sup> raw scores: range 1 to 5; higher scores indicate greater affect of body changes on body image

<sup>m</sup> summed scores: range 0 to 192; higher scores indicate greater exercising.

<sup>n</sup> summed scores: range 0 to 14; higher scores indicate greater use of anti-aging products/techniques in future.

<sup>o</sup> averaged scores: range 1 to 5; higher scores indicate greater dieting.

<sup>p</sup> raw scores: range 1 to 5; higher scores indicate more time spent on daily grooming.

<sup>q</sup> raw scores: range 0 to 10; higher scores indicate more time spent on shopping.

<sup>r</sup> raw scores: range 1 to 9; higher scores indicate more money spent on apparel.

<sup>5</sup> paired comparisons t-test:  $H_0$ : (husband's score - matching wife's score on the same variable) = 0.

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



**Table 4.9. Correlations among the variables (Men:  $N = 94$ )**

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1. Appearance attitude	1.00																	
2. Appearance orientation	.40	1.00																
3. Evaluation of spouse's attractiveness	.34	.29	1.00															
4. Perceived attractiveness	.50	.13	.53	1.00														
5. Marital quality	.19	.21	.40	.36	1.00													
6. Vigor	.41	.24	.25	.26	.19	1.00												
7. Stress	-.28	-.10	-.10	-.19	-.42	-.27	1.00											
8. Fatigue	-.20	-.19	-.05	-.10	-.21	-.46	.58	1.00										
9. Cognitive age	-.21	-.10	.08	-.02	.05	-.51	.03	.29	1.00									
10. Self-assessed health	.32	.18	.01	.01	.13	.54	-.31	-.47	-.35	1.00								
11. Physical changes	-.18	-.05	-.01	-.17	-.15	-.31	.26	.44	.18	-.37	1.00							
12. Effect of physical changes	-.30	-.01	.05	-.23	-.11	-.05	.27	.20	-.07	-.16	.32	1.00						
13. Exercise	.15	-.03	-.03	.09	-.03	.21	.03	-.05	-.24	.14	-.06	-.05	1.00					
14. Use of anti-aging products/ techniques	-.13	.06	-.02	-.14	-.17	-.03	.25	.18	-.13	-.05	.40	.20	.05	1.00				
15. Dieting	-.32	.01	-.02	-.31	-.01	.04	.20	.07	-.20	.02	.23	.41	.09	.45	1.00			
16. Daily Grooming	-.03	.21	.02	-.24	-.17	-.07	.05	-.05	-.16	.03	-.04	.16	-.14	-.01	.08	1.00		
17. Apparel shopping	.10	.21	-.20	-.08	.01	.10	-.09	-.04	-.11	.09	.20	.20	.04	.24	.24	-.04	1.00	
18. Apparel expenditures	-.07	.21	.11	-.02	.08	.15	-.00	-.11	-.34	.03	.06	.21	.15	.26	.20	.14	.15	1.00

**Table 4.10. Correlations among the variables (Women:  $N = 94$ )**

<b>Variables</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>
<b>1. Appearance attitude</b>	1.00																	
<b>2. Appearance orientation</b>	.35	1.00																
<b>3. Evaluation of spouse's attractiveness</b>	.36	.12	1.00															
<b>4. Perceived attractiveness</b>	.64	.32	.51	1.00														
<b>5. Marital quality</b>	.28	.15	.40	.31	1.00													
<b>6. Vigor</b>	.30	.18	.23	.26	.16	1.00												
<b>7. Stress</b>	-.28	-.18	-.25	-.29	-.43	-.27	1.00											
<b>8. Fatigue</b>	-.16	-.06	-.25	-.07	-.17	-.38	.31	1.00										
<b>9. Cognitive age</b>	-.15	-.10	-.08	-.18	.06	-.33	.12	.05	1.00									
<b>10. Self-assessed health</b>	.14	.13	.02	.12	.03	.65	-.31	-.33	-.38	1.00								
<b>11. Physical changes</b>	-.36	-.27	-.01	-.03	-.25	-.25	.14	.17	.24	-.15	1.00							
<b>12. Effect of physical changes</b>	-.40	-.08	-.01	-.16	-.22	-.33	.35	.23	.18	-.28	.35	1.00						
<b>13. Exercise</b>	.21	-.02	.28	.32	.20	.55	-.25	-.22	-.33	.31	-.05	-.24	1.00					
<b>14. Use of anti-aging products/ techniques</b>	.13	.10	.34	.28	.02	.25	-.07	.06	-.43	.12	.11	-.05	.29	1.00				
<b>15. Dieting</b>	-.43	-.11	-.07	-.24	-.26	-.09	.30	.13	-.29	-.10	.24	.35	-.07	.20	1.00			
<b>16. Daily Grooming</b>	.22	.24	.08	.11	.12	.22	-.26	-.09	-.13	.15	-.03	-.06	.15	.17	-.10	1.00		
<b>17. Apparel shopping</b>	.08	.12	-.10	-.08	-.11	.17	.01	-.02	-.14	.13	-.00	-.02	.02	.23	.08	.23	1.00	
<b>18. Apparel expenditures</b>	.05	.05	.25	.13	-.04	.25	-.04	.02	-.34	.16	.18	.07	.17	.38	.23	.20	.39	1.00

Table 4.11. Correlations between demographic variables and the hypothesis variables  
(Men:  $N = 94$ )

Variables	Age	Income	Education
Appearance attitude	-.04	.18	.08
Appearance orientation	-.02	.11	-.02
Self-assessed health	-.12	.02	-.13
Effect of physical changes	-.03	-.04	.08
Physical changes	-.04	.17	.15
Evaluation of spouse's attractiveness	.06	.14	.35**
Perceived attractiveness	.03	.25*	.31**
Marital quality	-.02	.15	.13
Cognitive age	.71***	-.25*	-.09
Vigor	-.30**	.09	.05
Psychological distress	-.08	-.07	-.01
Fatigue	.13	-.14	.08
Exercise	-.29**	.22*	.21*
Dieting	-.34**	.06	.04
Use of anti-aging products/techniques	-.16	.06	.15
Daily Grooming	-.01	-.03	-.14
Apparel shopping	-.15	.04	-.03
Apparel expenditures	-.39***	.19	.04
Age	1.00		
Incomes	-.20*	1.00	
Education	-.19	.52***	1.00

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 4.12. Correlations between demographic variables and the hypothesis variables  
(Women:  $N = 94$ )

Variable (Women : $N = 94$ )	Age	Income	Education
Appearance attitude	.02	.17	-.01
Appearance orientation	.07	-.03	-.13
Self-assessed health	-.24*	.18	.07
Physical changes	.04	.02	.07
Effect of physical changes	.14	-.03	-.07
Evaluation of spouse's attractiveness	.02	.33**	.02
Perceived attractiveness	-.02	.14	.04
Marital quality	.05	.21*	-.01
Cognitive age	.72***	-.16	-.21
Vigor	-.20	.09	.15
Psychological distress	-.05	-.18	.01
Fatigue	-.07	-.15	.15
Exercise	-.25*	.08	.14
Dieting	-.41***	.08	.19
Use of anti-aging products/techniques	-.39***	.21*	.25*
Daily Grooming	.07	.10	.03
Apparel shopping	-.04	-.01	-.08
Apparel expenditures	-.32**	.40***	.21*
Age	1.00		
Incomes	-.21*	1.00	
Education	-.30**	.25*	1.00

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

assessed health ( $r = -.24, p = .018$ ), exercise ( $r = -.25, p = .005$ ), use of anti-aging products and techniques ( $r = -.39, p = .0001$ ), dieting ( $r = -.41, p = .0001$ ), and apparel expenditures ( $r = -.32, p = .002$ ).

Men and women who were chronologically older tended to feel cognitively older. Women who were older felt less healthier than did those who were younger, while men who were older felt less vigorous than were those who were younger. For both men and women, age had no significant relationship with appearance attitude, appearance orientation, evaluation of spouse's attractiveness, perceived attractiveness, and marital quality. With regard to engagement in appearance management activities, men and women who were older were less likely to engage in exercise and dieting and spent less on apparel than did those who were younger. Particularly, women who were older showed less use of anti-aging products and techniques than did those who were younger. Men and women who were older tended to have lower incomes than did those who were younger. Only for women, education completed was negatively related with their age, suggesting that older women had completed less education than did younger women.

#### **Annual household incomes**

For men, incomes were positively related to perceived attractiveness ( $r = .25, p = .015$ ) and exercise ( $r = .22, p = .035$ ) and negatively related to cognitive age ( $r = -.25, p = .017$ ). For women, incomes had a positive relationship with evaluation of spouse's attractiveness ( $r = .33, p = .001$ ), marital quality ( $r = .21, p = .043$ ), use of anti-aging products and techniques ( $r = .20, p = .048$ ), and apparel expenditures ( $r = .34, p = .001$ ).

Men with higher incomes thought that their wives evaluated them as more attractive, while women with higher income evaluated their husbands as more attractive and were more satisfied with their marriage than did those with lower incomes. In addition, men who had higher annual incomes felt cognitively younger than did those who had lower annual incomes. With regard to engagement in appearance management activities, men with higher incomes exercised more than did those with lower incomes. Likewise, women with higher incomes used more anti-aging products and techniques and spent more money on new

apparel or apparel services than did those with lower incomes. For both men and women, annual household incomes and education completed were positively correlated.

### **Years of education completed**

For men, years of education completed were positively correlated with evaluation of spouse's attractiveness ( $r = .35, p = .001$ ), perceived attractiveness ( $r = .31, p = .003$ ), and exercise ( $r = .21, p = .043$ ). For women, years of education had a negative relationship with cognitive age ( $r = -.21, p = .042$ ) and a positive relationship with use of anti-aging products and techniques ( $r = .25, p = .016$ ) and apparel expenditures ( $r = .21, p = .043$ ).

Men who completed more education evaluated their spouses as more attractive, thought that their spouses would have perceived them as more attractive, and exercised more than did those who completed less education. Women who had more education felt cognitively younger, used more anti-aging products and techniques, and spent more on apparel.

### **Test of Hypotheses**

To test the research hypotheses,  $t$  tests, multiple linear regression analysis, and structural equation modeling were performed. Paired comparisons  $t$  tests were conducted to compare men's scores with women's scores on the following variables: two factors of body image (Appearance Attitude, Appearance Orientation), appearance management behaviors (exercise, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping, and apparel expenditures), self-assessed health, physical changes, effect of physical changes, evaluation of spouse's attractiveness, perceived attractiveness (a person's perception of his or her spouse's appraisals of his or her attractiveness), marital quality, cognitive age, and three factors of mood (Vigor, Psychological Distress, and Fatigue).

Multiple regression in this study included two phases. First, multiple regression analysis was used to examine if appearance attitude and appearance orientation may explain older men's and women's engagement in various appearance management activities including exercise, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping, and apparel expenditures. Second, hierarchical multiple regression

analysis was performed to determine how well a set of independent variables explained appearance attitude and appearance orientation. Independent variables included demographic variables (age, incomes, and education), aging-related variables (self-assessed health, physical changes, and effect of physical changes), relationship-related variables (evaluation of spouse's attractiveness, perceived attractiveness, and marital quality), and psychological variables (cognitive age, vigor, psychological distress, and fatigue). Finally, structural equation modeling was used to test hypotheses pertaining to older married couples' interdependence in perception of appearance.

### **Paired *t* test**

As shown in Table 4.8, paired comparisons *t* tests revealed significant differences between men's and women's scores on appearance attitude ( $t = 3.25, p = .002$ ), appearance orientation ( $t = -5.31, p = .0001$ ), cognitive age ( $t = 4.93, p = .0001$ ), effect of physical changes ( $t = -3.40, p = .001$ ), use of anti-aging products and techniques ( $t = -.15.27, p = .0001$ ), dieting ( $t = -3.65, p = .0004$ ), grooming ( $t = -2.68, p = .009$ ), apparel shopping ( $t = -6.97, p = .0001$ ), and apparel expenditures ( $t = -4.60, p = .0001$ ).

Older men were more satisfied with their body parts and felt more positive about their bodies and physical appearance than did older women. Likewise men's feelings about themselves were less affected by aging-related physical changes they had experienced than were women's feelings about themselves. On the other hand, women were more concerned about looking good and were more oriented to appearance-related activities than were men. Regarding engagement in appearance management behaviors, women used more anti-aging products and techniques, were involved in more dieting, spent more time on daily grooming and shopping for apparel, and spent more money on apparel than did men. Men felt cognitively older than did women, which reflected the differences in their actual age. Both men and women felt much younger than their cognitive ages. In other words, men and women whose mean ages were in their early seventies felt that they belonged to the age decades of sixties and fifties, respectively.

Although there was no significant difference on the scores of physical changes, the results of frequency tables revealed that there were qualitative differences between men and women in their perceived physical changes associated with aging. Older men had experienced changes in hair, decrease of eye sight, loss of strength or endurance, and loss of flexibility or balance most frequently, while older women reported that they had noticed changes in face, skin, hair, and body composition and loss of strength or endurance.

The results of paired comparisons *t* tests supported Hypotheses 1-1 and 1-2.

**H<sub>1-1</sub>:** Older men have more positive body image than do older women.

Of two variables of body image, appearance attitude reflects feelings about or attitudes toward physical appearance. Husbands showed more favorable attitudes towards their physical appearance and higher satisfaction with their body parts than did their wives. Gender differences in body image, in that women have less positive attitudes about their bodies and physical appearance and are more dissatisfied with specific body parts than do men, have been found in previous studies involving older adults (Franzoi & Koehler, 1998; Janelli, 1993; Tiggemann, 1992).

**H<sub>1-2</sub>:** Older women engage in more appearance management practices than do older men.

The wives in this study were more involved in various appearance management practices -- dieting, use of anti-aging product and techniques, daily grooming, apparel shopping, and apparel expenditures -- than were their husbands. Wives were also more oriented to appearance-related behaviors and were more concerned about looking good than were their husbands. Older women were more dissatisfied with their aging bodies and appearance (H<sub>1-1</sub>) than were older men, which may be reflected in the women's rigorous efforts to manage appearance. Women's greater concern with the body and physical attractiveness seems to be prevalent among older women. Saltzberg and Chrisler (1995) wrote that older women may believe that the only way to remain attractive in youth-oriented Western society is to prevent the development of any sign of aging. These gender differences in involvement in appearance management have been consistently found with other generations and age groups (Aune & Aune, 1994; Cash et al., 1986; Daly et al., 1983).



### **Multiple Regression Analysis**

Two body image variables (appearance attitude and appearance orientation) served as the independent variables to estimate older men's and women's engagement in appearance management practices including exercise, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping, and apparel expenditures. In addition, hierarchical regression analyses were performed to examine how the appearance attitude and appearance orientation variables were explained by aging-related variables, relationship-related variables, psychological variables, and demographic variables. Analyses for these two body image variables were performed separately for men and for women.

All of the multiple regression analyses conducted to test the hypotheses were subject to regression diagnostics. Plots of residuals and the independent variables were examined. There was no indication of outliers or influential data points. The plots also supported that the error variances were constant. The results of correlation tests for normality showed that residuals from each multiple regression analysis were normally distributed. Finally, variance-inflation factor (VIF), tolerance, eigenvalue, and condition index were calculated for all independent variables for each regression analysis. The largest VIF value among all independent variables was used as an indicator of the severity of multicollinearity. When a maximum VIF value exceeds 10, it is usually an indication that multicollinearity may be influencing the least squares estimates (Neter, Kutner, Nachtsheim, & Wasserman, 1996). No multicollinearity problems among independent variables were detected for any multiple regression analyses.

#### **Multiple regression analyses for appearance management practices**

Multiple regression was used to test relationships among engagement in various appearance management practices -- exercise, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping, and apparel expenditures -- and two body image variables, appearance attitude and appearance orientation. Of two measures of body image, appearance attitude measures feelings of and satisfaction with one's body and appearance while appearance orientation reflects the degree to which people are oriented to appearance-related behavior (Brown, et al., 1990). The correlation between these two body

image variables was .40 ( $p = .001$ ) for men and .35 ( $p = .001$ ) for women. Older men and women who felt more positive about and more satisfied with their bodies and appearance tended to be more concerned about how they looked and were more oriented to appearance-related activities. This result was opposite to the results of Wilcox's (1997) study in which appearance orientation was unrelated to body attitudes among participants ranging from 20 to 80 years of age.

These two body image variables (appearance attitude and appearance orientation) served as the independent variables in multiple regression analyses estimating older men's and women's engagement in appearance management practices. The correlations among the dependent variables and the independent variables can be found in Tables 4.9 and 4.10.

### **Exercise**

As shown in Table 4.13, the overall model estimating men's engagement in exercise was not significant. Neither  $t$  values associated with appearance attitude nor appearance orientation was a significant predictor of older men's engagement in exercise. However, appearance attitude was weakly, but not significantly related to exercise. Older men who had more positive attitudes about and higher satisfaction with their bodies and appearance were slightly likely to engage more in exercise.

Likewise, the overall model for older women's engagement in exercising was not significant (see Table 4.14). However, the result of the  $F$  test indicated that there was a non-significant trend in this model. Since the overall fit was not significant, but close to the level of significance, the estimates for independent variables needed to be examined further. Appearance attitude had a significantly positive relationship to older women's engagement in exercise, while appearance orientation was not significantly related to exercise. A significant relationship between appearance attitude and exercise for older women may have contributed to the non-significant trend of the overall fit estimation. Older women who felt more positive about their bodies and appearance and were more satisfied with their body parts tended to exercise more than did those who felt less positive and were less satisfied.

Table 4.13. Multiple regression analysis estimating exercise for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	309.81	154.90	1.57 ( <i>p</i> = .213)	.03
Error	91	9273.59	101.91		
Total	93	9583.40			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	3.50	1.771 (0.079)	.20
Appearance orientation	-1.53	-0.762 (0.448)	-.09

*N* = 93

Table 4.14. Multiple regression analysis estimating exercise for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	891.35	445.68	1.68 ( <i>p</i> = .074)	.06
Error	91	15136.61	166.34		
Total	93	16027.97			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	4.59	<b>2.307 (0 .023)</b>	.25
Appearance orientation	-2.41	-0.979 (0 .330)	-.11

*N* = 93

This finding was inconsistent with the results of the previous studies (Hallinan & Schuler, 1993; Imm & Pruitt, 1991) that found that for women, dissatisfaction with the body, especially body weight or body shape motivated them to exercise or that older women reported increased dissatisfaction with the body or current body shape among women who were highly involved in exercise. Although the relationships between body attitude and

exercise were non-significant trends for both men and women, these slightly positive relationships were consistent with Sydney and Shephard (1976)'s study in which older men and women reported improved body image after participating in physical training programs. The results of national survey by *Psychology Today* in 1997 also showed that people who regularly exercised felt better about their bodies ("Body Image", 1997).

The lack of relationship between appearance orientation and engagement in exercise for both men and women suggests that older persons may exercise to improve or to maintain their health or fitness rather than to improve their appearance. In a global definition of body image by Cash (1994), body image is conceived as one's attitudinal dispositions toward the physical self which encompasses not only the aesthetics of one's appearance or size but also fitness and health/illness. In a study by Dishman, Sallis, and Orenstein (1985), people who were well-educated, self-motivated, knowledgeable about health benefits of exercise, able to plan a personal exercise program, or had a history of involvement in sports in young adulthood were found to engage regularly in spontaneous exercise. Further research is needed to explore various factors motivating older persons to participate in regular exercise.

### **Dieting**

As shown in Table 4.15, the overall model for men's involvement in dieting was significant ( $F(2, 96) = 6.20, p = .003$ ), accounting for 13% of the variance of dieting. Appearance attitude had a significantly negative relationship to men's involvement in dieting especially to control their weight. Older men who were more satisfied with their body parts and had more positive feelings about their bodies and appearance engaged in less dieting than did those who were less satisfied with their body parts and had less positive feelings about their bodies and appearance.

The same regression analysis was repeated with older women's dieting as the dependent variable to examine if appearance attitude and appearance orientation would contribute to explain engagement in dieting. As shown Table 4.16, the overall model was significant ( $F(2, 90) = 10.47, p = .0001$ ), accounting for 19% of the variance of women's dieting. Of two predictors, appearance attitude had an inverse relationship with dieting. Similar to men, women who were less satisfied with their body parts and felt less positive

Table 4.15. Multiple regression analysis estimating dieting for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	7.30	3.65	<b>6.20 (<i>p</i> = .003)</b>	.13
Error	86	50.59	0.59		
Total	88	57.88			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	-.57	<b>-3.521 (0.001)</b>	-.39
Appearance orientation	.25	1.505 (0.136)	.17

*N* = 88

Table 4.16. Multiple regression analysis estimating dieting for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	13.13	6.68	<b>10.47 (<i>p</i> = .000)</b>	.19
Error	90	56.54	0.63		
Total	92	69.70			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	-.54	<b>-4.413 (0 .000)</b>	-.45
Appearance orientation	.06	0.391 (0.697)	.04

*N* = 92

about their bodies and appearance were more involved in dieting than were those who were more satisfied with their body parts and felt more positive about their bodies and appearance.

A positive relationship between dissatisfaction with body weight and engagement in dieting among older women has been consistently found (Gupta, 1995; Hetherington, 1994; Stevens et al., 1994). Interestingly, older men also engaged in dieting to resolve their

dissatisfaction with their body parts including body weight or to improve their negative feelings about their bodies and appearance. The majority of the men and women in this present study reported that they had experienced weight gain in the aging process. Older men seem to engage in dieting for weight loss, while young men rarely used dieting to lose weight (Drewnowski, Kurth, & Krahn, 1995). The researchers also found that young men aged 18 years prominently used physical exercise to lose weight.

#### **Use of anti-aging products and techniques**

For men, the overall model was not significant (see Table 4.17) but. showed a non-significant trend. Both independent variables had significant relationships with men's use of anti-aging products and techniques. Appearance attitude had a negative relationship to the dependent variable, suggesting that older men who had less positive attitudes toward their bodies and appearance and were less satisfied with their body parts were more likely to color their hair, to wear a wig or toupee, to wear sunblock with high SPF to ward off the sun's damaging rays, and to take anti-aging drugs, hormones, or vitamins. In contrast, appearance orientation was positively associated with use of anti-aging products and techniques.

Table 4.17. Multiple regression analysis estimating use of anti-aging products and techniques for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	4.05	2.02	3.08 ( <i>p</i> = .051)	.06
Error	90	58.51	0.66		
Total	92	62.56			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	-.34	<b>-2.010 (0 .048)</b>	-.22
Appearance orientation	.37	<b>2.137 (0 .035)</b>	.24

*N* = 92

indicating that older men who were more oriented to appearance-related activities and placed greater emphasis on appearance were more likely to color their hair, wear a wig or toupee, wear sunblock, and to take anti-aging drugs or vitamins.

As shown in Table 4.18, the overall model for older women was not significant. The two body image variables, appearance attitude and appearance orientation were not significantly related with older women's use of anti-aging products and techniques. In other words, older women's use of anti-aging products and techniques was not explained by their feelings about their bodies and appearance or the degree to which they were oriented to appearance-related activities.

Table 4.18. Multiple regression analysis estimating use of anti-aging products and techniques for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	7.70	3.85	0.98 ( <i>p</i> = .379)	.02
Error	91	357.20	3.93		
Total	93	364.90			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	.31	1.012 (0.314)	.11
Appearance orientation	.21	0.560 (0.577)	.06

*N* = 93

### Daily grooming

Older men's and women's daily grooming were regressed on appearance attitude and appearance orientation. For men, the overall model was not significant (see Table 4.19). However, the overall fit of the model, which was close to significance, indicated a non-significant trend, which led the researcher to examine the estimates of the independent variables. Appearance orientation had a positive relationship with daily grooming. In other

words, older men who were more concerned about how they look and were more oriented to appearance-related activities tended to spend more time on grooming before they were ready for a day such as shaving, putting on cologne, styling hair, or dressing.

For women, the overall model was significant ( $F(2, 91) = 3.78, p = .027$ ), accounting for 8% of the variance of daily grooming (see Table 4.20). However, none of the independent variables had a significant relationship with daily grooming. Appearance orientation had a weak but not significant relationship with daily grooming, indicating a non-significant trend. Older women who were more concerned about how they looked and were more oriented to appearance-related activities may tend to spend more time on getting ready for a typical day.

The positive relationship between appearance orientation and daily grooming found among the men and, to a lesser degree, the women in this study was reported by Kelson et al. (1990) with female college students. Both older men and women, regardless of feelings about or satisfaction with the body and appearance, who are more worried about the public impression they make may be more careful when they prepare themselves for a day than do those who were less concerned about how they look in public. Contrary to Rook's (1985) findings that the amount of grooming products used was positively related to body

Table 4.19. Multiple regression analysis estimating daily grooming for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	2.80	1.40	2.92 ( $p = .059$ )	.06
Error	90	43.15	0.48		
Total	92	45.95			
Variables	<i>b</i>		<i>t</i> value ( $p$ value)		$\beta$
Appearance attitude	-.18		-1.247 (0.216)		-.14
Appearance orientation	.35		2.398 (0.019)		.27

$N = 92$



Table 4.20. Multiple regression analysis estimating daily grooming for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	3.74	1.87	3.78 ( <i>p</i> = .027)	.08
Error	91	45.00	0.49		
Total	93	48.74			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	.16	1.439 (0.154)	.15
Appearance orientation	.23	1.702 (0.092)	.18

*N* = 93

satisfaction, older persons' satisfaction with and feelings about their bodies were not significantly related to their involvement in daily grooming.

#### **Apparel shopping and expenditures**

Two separate multiple regression analyses were conducted to examine if appearance attitude and appearance orientation would be related to apparel shopping and apparel expenditures among older persons. Table 4.21 summarizes the results of a multiple regression analysis for husbands' apparel shopping. The overall model for husbands was not significant. However, appearance orientation had a weak, but non-significant relationship to men's apparel shopping. Older men who were more oriented to appearance-related activities and were more concerned about appearance may spend more time on shopping for apparel.

For women, the overall model was not significant (see Table 4.22). Neither appearance attitude nor appearance orientation was significantly related to apparel shopping, indicating older women's feelings about their bodies or appearance or orientation to appearance-related activities did not explain the hours they spent on shopping for apparel during a typical month.

Table 4.21. Multiple regression analysis estimating apparel shopping for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	10.50	5.25	2.08 ( <i>p</i> = .131)	.04
Error	89	224.37	2.52		
Total	91	234.87			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	.06	0.169 (0.866)	.02
Appearance orientation	.61	1.800 (0.075)	.20

*N* = 91

Table 4.22. Multiple regression analysis estimating apparel shopping for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	10.98	5.49	0.70 ( <i>p</i> = .499)	.02
Error	88	690.05	7.84		
Total	90	701.03			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	.15	0.346 (0.730)	.04
Appearance orientation	.51	0.945 (0.347)	.11

*N* = 90

Another set of multiple regression analyses was carried out to examine if appearance attitude and appearance orientation were related to apparel expenditures for older men and women. The overall model for husbands was significant ( $F(2, 85) = 3.17, p = .047$ ), accounting for 7% of the variance of apparel expenditures (see Table 4.23). Of the two

independent variables, appearance orientation had a significant positive relationship with men's apparel expenditures. Older men who were more oriented to appearance-related activities and placed greater importance on appearance were likely to purchase more new apparel and shoes and spend more on apparel services in the previous year.

For women, the overall model was not significant (see Table 4.24). Neither appearance attitude nor appearance orientation was significantly related to women's apparel expenditures. Older women's body image did not explain the dollar amount they spent on new apparel and shoes and apparel services in the previous year.

Although older men were found to spend less on apparel than older women (McConnel, & Deljavan, 1983; Neal, Schwenk, & Courtless, 1990; Rubin & Nieswiadomy, 1994), the relationship between body image, particularly appearance orientation, and apparel consumption appears to be stronger for older men than for older women. Men who are more concerned about how they look and place more importance on their public images may be more sensitive to how others perceive their aging appearance. Older men may spend more time and money to search for and to buy proper outfits representing exactly who they are in order to avoid fitting a stereotypical, usually negative image of the older generation.

Table 4.23. Multiple regression analysis estimating apparel expenditures for men

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	23.94	11.97	<b>3.17 (<i>p</i> = .047)</b>	.07
Error	85	320.92	3.78		
Total	87	344.86			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	-.63	-1.557 (0.123)	-.18
Appearance orientation	1.00	<b>2.433 (0.017)</b>	.28

*N* = 87

Table 4.24. Multiple regression analysis estimating apparel expenditures for women

Source	DF	SS	MS	<i>F</i>	<i>R</i> <sup>2</sup>
Regression	2	1.61	0.80	0.16 ( <i>p</i> = .849)	.00
Error	89	437.00	4.91		
Total	91	438.61			

Variables	<i>b</i>	<i>t</i> value ( <i>p</i> value)	$\beta$
Appearance attitude	.12	0.345 (0.731)	.04
Appearance orientation	.13	0.306 (0.760)	.03

*N* = 91

The insignificant relationships of appearance attitude to apparel shopping and to apparel expenditures for older men was inconsistent with Shim et al.'s (1991) findings reporting that men with greater satisfaction with their body parts tended to consume more apparel and to enjoy more apparel shopping.

The results of the multiple regression analyses are summarized in Table 4.25. For older men, the regression model was effective in explaining dieting and apparel expenditures and indicated non-significant trends in use of anti-aging products and techniques and daily grooming. For older women, the regression model was significant in estimating their involvement in dieting and daily grooming and suggested that there was a non-significant trend in exercise.

The magnitudes of the influences of appearance attitude and appearance orientation on appearance management practices slightly differed between older men and women. For both men and women, appearance attitude was inversely related to dieting and positively related with exercise (even though the relationship with exercise was weak for men). In addition, appearance attitude was also inversely related with use of anti-aging products and techniques for older men. Appearance orientation was positively related to use of anti-aging products and techniques, daily grooming, apparel shopping (weak relationship), and apparel

expenditures for older men. On the other hand, appearance orientation was only weakly related to daily grooming for older women. Overall, the models examining how well body image variables explain older persons' engagement in appearance management practices appear to be more effective for older men than women. Compared to older men, older women's greater involvement in use of anti-aging products and techniques, apparel shopping and apparel expenditures (see Table 4.8) but less strong relationships between body image variables and these appearance management variables suggest that older women, regardless of their body image, are socialized to make more effort to maintain youthfulness or to avoid signs of aging and are more interested in apparel than are older men.

Based on the results of the multiple regression analyses designed to examine if appearance attitude (H<sub>2-1</sub>, H<sub>2-2</sub>, H<sub>2-3</sub>, H<sub>2-4</sub>, H<sub>2-5</sub>, and H<sub>2-6</sub>) and appearance orientation

Table 4.25. Summary of multiple regression analyses estimating engagement in appearance management practices

Dependent variable	<i>F</i> -value	<u>Men</u>		<i>F</i> -value	<u>Women</u>	
		AA <sup>a</sup>	AO <sup>b</sup>		AA <sup>a</sup>	AO <sup>b</sup>
Exercise	n.s.	n.s.t.(+)	n.s.	n.s.t.	sig.(+)	n.s.
Dieting	sig.	sig.(-)	n.s.	sig.	sig.(-)	n.s.
Use of anti-aging products and techniques	n.s.t.	sig.(-)	sig.(+)	n.s.	n.s.	n.s.
Daily Grooming	n.s.t.	n.s.	sig.(+)	sig.	n.s.	n.s.t.(+)
Apparel shopping	n.s.	n.s.	n.s.t.(+)	n.s.	n.s.	n.s.
Apparel expenditures	sig.	n.s.	sig.(+)	n.s.	n.s.	n.s.

<sup>a</sup> Appearance attitude

<sup>b</sup> Appearance orientation

n.s.: non significant relationship

n.s.t.: non-significant trend or weak relationship

sig.: significant relationship

(+): positive relationship

(-): negative relationship

(H<sub>2.7</sub>) were related to older men's and women's engagement in appearance management behaviors -- exercise, dieting, use of anti-aging products or techniques, daily grooming, apparel shopping, and apparel expenditures -- hypotheses regarding appearance management practices were tested. A hypothesis was considered to be supported by the data when there was a significant relationship between variables at the critical value of significance ( $\alpha = .05$ ). Results are presented in Table 4.26.

### **Multiple regression analyses for the body image variables**

Multiple regression with hierarchical procedures was used to explore what combination of independent variables best predicted the body image variables -- appearance attitude and appearance orientation. For the following regression, independent variables were grouped into four blocks -- demographic variables, aging-related variables, relationship-related variables, and psychological variables. Demographic variables included age, education, and incomes. Aging-related variables were self-assessed health, physical changes, and effect of physical changes. Relationship-related variables were evaluation of spouse's attractiveness, perceived attractiveness, and marital quality. Finally, psychological variables included cognitive age, vigor, psychological distress, and fatigue.

The hierarchical order of entry of the independent variables was determined based on conceptual associations among the variable groups. Demographic variables as predisposed variables were entered first followed by aging-related variables. Since aging-related variables are closely related to chronological age and are hard to manipulate, they were entered before relationship-related and psychological variables. Due to lack of evidence supporting any causal relationship between relational-related and psychological variables, these two blocks of variables were added alternatively to the second model after demographic and aging-related variables were already entered. The following equations were written to examine relationships between the independent variables and the dependent variable. In each equation, the dependent variable ( $\hat{Y}$ ) was either appearance attitude or appearance orientation.

Table 4.26. Summary of hypothesis test regarding appearance management practices

Hypotheses		<u>M</u> <sup>a</sup>	<u>W</u> <sup>b</sup>
H <sub>2-1</sub>	Older persons who feel more positive about their bodies and appearance exercise more than do those who feel less positive about their bodies and appearance.	n.s.	s.
H <sub>2-2</sub>	Older persons who feel less positive about their bodies and appearance are more involved in dieting than do those who feel more positive about their bodies and appearance.	s.	s.
H <sub>2-3</sub>	Older persons who feel more positive about their bodies and appearance use more anti-aging products techniques than do those who feel less positive about their bodies and appearance.	n.s.	n.s.
H <sub>2-4</sub>	Older persons who feel more positive about their bodies and appearance spend more time on daily grooming than do those who feel less positive about their bodies and appearance.	n.s.	n.s.
H <sub>2-5</sub>	Older persons who feel more positive about their bodies and appearance spend more time on apparel shopping than do those who feel less positive about their bodies and appearance.	n.s.	n.s.
H <sub>2-6</sub>	Older persons who feel more positive about their bodies and appearance spend more money on apparel than do those who feel less positive about their bodies and appearance.	n.s.	n.s.
H <sub>2-7</sub>	Older persons who are more oriented to the body and appearance		
	a) exercise more	n.s.	n.s.
	b) are more involved in dieting	n.s.	n.s.
	c) use more anti-aging products and techniques	s.	n.s.
	d) spend more time on daily grooming	s.	n.s.
	e) spend more time on apparel shopping	n.s.	n.s.
	f) spend more money on apparel	s.	n.s.
	than do those who are less oriented to the body and appearance.		

<sup>a</sup> Men; <sup>b</sup> Women

n.s.: Hypothesis was not supported by the data. s.: Hypothesis was supported by the data.

Equation 1:  $\hat{Y} = b_1 \text{ Age} + b_2 \text{ Incomes} + b_3 \text{ Education}$

Equation 2:  $\hat{Y} = b_1 \text{ Age} + b_2 \text{ Incomes} + b_3 \text{ Education} + b_4 \text{ Self-assessed health}$   
 $+ b_5 \text{ Physical changes} + b_6 \text{ Effect of physical changes}$

Equation 3:  $\hat{Y} = b_1 \text{ Age} + b_2 \text{ Incomes} + b_3 \text{ Education} + b_4 \text{ Self-assessed health}$   
 $+ b_5 \text{ Physical changes} + b_6 \text{ Effect of physical changes}$   
 $+ b_7 \text{ Evaluation of spouse's attractiveness}$   
 $+ b_8 \text{ Perceived attractiveness} + b_9 \text{ Marital quality}$

Equation 4:  $\hat{Y} = b_1 \text{ Age} + b_2 \text{ Incomes} + b_3 \text{ Education} + b_4 \text{ Self-assessed health}$   
 $+ b_5 \text{ Physical changes} + b_6 \text{ Effect of physical changes}$   
 $+ b_7 \text{ Cognitive age} + b_8 \text{ Vigor} + b_9 \text{ Psychological distress} + b_{10} \text{ Fatigue}$

Equation 5:  $\hat{Y} = b_1 \text{ Age} + b_2 \text{ Incomes} + b_3 \text{ Education} + b_4 \text{ Self-assessed health}$   
 $+ b_5 \text{ Physical changes} + b_6 \text{ Effect of physical changes}$   
 $+ b_7 \text{ Evaluation of spouse's attractiveness}$   
 $+ b_8 \text{ Perceived attractiveness} + b_9 \text{ Marital quality}$   
 $+ b_{10} \text{ Cognitive age} + b_{11} \text{ Vigor} + b_{12} \text{ Psychological distress} + b_{13} \text{ Fatigue}$

### **Men's appearance attitude**

Table 4.27 presents the results of hierarchical multiple regression predicting older men's appearance attitude. The final model with all 13 independent variables was significant ( $F(13, 67) = 5.55, p = .0001$ ), accounting for 52% of the variance of appearance attitude for older men. Except for Equation 1 with demographic variables as predictors, Equation 2 with aging-related variables and demographic variables ( $F(6, 74) = 3.34, p = .006$ ), Equation 3 with relationship-related added to Equation 2 ( $F(9, 71) = 7.86, p = .0001$ ), and Equation 4 with psychological variables added to Equation 2 ( $F(10, 70) = 2.86, p = .005$ ) were significant. The variances of appearance attitude explained by each model were: 3% (Equation 1), 21% (Equation 2), 50% (Equation 3), and 29% (Equation 4). Increases in the



Table 4.27. Hierarchical multiple regression estimating appearance attitude for men ( $N = 80$ )

Variables	Equation 1		Equation 2		Equation 3		Equation 4		Equation 5	
	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$
Age	-.00 (-0.331)	-.04	.00 (0.012)	.01	-.01 (-0.946)	-.09	.01 (0.665)	.11	.00 (0.283)	.04
Education	.02 (0.323)	.04	.05 (1.059)	.13	-.04 (-0.996)	-.11	.03 (0.722)	.09	-.04 (-1.108)	-.12
Incomes	.05 (1.060)	.14	.02 (0.543)	.07	.01 (0.233)	.02	.03 (0.657)	.08	.01 (0.244)	.03
Self-assessed health			<b>.25 (3.106)</b>	<b>.35</b>	<b>.27 (4.116)</b>	<b>.38</b>	<b>.13 (1.388)</b>	<b>.18</b>	<b>.24 (2.972)</b>	<b>.35</b>
Physical changes			.01 (0.549)	.06	.03 (1.758)	.17	.01 (0.565)	.07	.03 (1.489)	.16
Effect of physical changes			<b>-.18 (-2.248)</b>	<b>-.25</b>	-.12 (-1.775)	-.17	<b>-.18 (-2.154)</b>	<b>-.24</b>	-.12 (-1.621)	-.17
Evaluation of spouse's Attractiveness					<b>.21 (2.713)</b>	<b>.30</b>			<b>.21 (2.626)</b>	<b>.30</b>
Perceived attractiveness					<b>.30 (3.421)</b>	<b>.41</b>			<b>.30 (3.261)</b>	<b>.40</b>
Marital quality					-.04 (-0.683)	-.06			-.03 (-0.596)	-.06
Cognitive age							-.05 (-0.407)	-.07	-.13 (-1.061)	-.20
Vigor							<b>.18 (2.316)</b>	.32	.01 (0.143)	.02
Stress							-.13 (-0.940)	-.11	-.10 (-0.793)	-.09
Fatigue							.10 (0.958)	.14	.10 (1.090)	.13
MSR	0.25		0.83		1.30		0.68		0.94	
MSE	0.30		0.25		0.17		0.24		0.17	
$R^2$	.03		.21		.50		.29		.52	

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*t* value in bold is significant at the significant level of .05.

variance explained by adding each variable block were: 3% (demographic variables), 18% (aging-related variables), 29% (relationship-related variables), and 8% (psychological variables). The results of hierarchical multiple regression suggest that aging-related variables and relationship-related variables explained most of the variance of men's appearance attitude. In examining relationships between the independent variables and the dependent variables, if a  $t$  value associated with the regression coefficient exceeded 2, the relationship between the variable and the dependent variable was considered statistically significant at the critical value of probability of .05.

**Demographic variables.** Similar to the results of correlation analysis (see Table 4.11), age, education, and income were not significant estimators of men's appearance attitude in Equation 5. These demographic variables were not significant in other equations.

**Aging-related variables.** Of three aging-related variables, only self-assessed health was significant in Equation 5. Self-assessed health was positively related with appearance attitude, indicating that older men who felt healthier were more satisfied with and had more positive feelings about their bodies and appearance than did those who felt less healthy.

Effect of physical changes on the self was insignificant in Equation 5 but close to significance, indicating a possible weak relationship. The  $t$  value associated with effect of physical changes was significant in Equation 2 and 4. Effect of physical changes had an inverse relationship with appearance attitude, indicating that men whose feelings about themselves were less influenced by physical changes associated with aging held more positive feelings about and were more satisfied with their bodies and appearance than did men whose feelings about themselves were more influenced by these physical changes. The significant correlation between effect of physical changes and appearance attitude ( $r = -.30$ ,  $p = .004$ ) also supports this inverse relationship. Based on the results of multiple regression and correlation analyses, it appears that the relationship between appearance attitude and effect of physical changes was mediated by the relationship-related variables. Physical changes was not a significant predictor of appearance attitude in Equation 5 and in other equations.

**Relationship-related variables.** This block of variables included evaluation of spouse's attractiveness, perceived attractiveness, and marital quality. In Equation 5, evaluation of spouse's attractiveness and perceived attractiveness were significantly related to appearance attitude. Older men who evaluated their spouse as more attractive and who thought that their spouse evaluated them as more attractive were likely to have more positive attitudes toward and greater satisfaction with their bodies and appearance. Marital quality was not a significant predictor in Equation 3 and 5.

**Psychological variables.** None of psychological variables -- cognitive age, vigor, psychological distress, and fatigue -- was significantly related to appearance attitude in Equation 5 and Equation 4. Although vigor had a significance relationship to appearance attitude in Equation 4, when vigor was entered with the relationship-related variables in Equation 5, the  $t$  value associated with vigor decreased, indicating the relationship between vigor and appearance attitude was mediated by the relationship-related variables. These results did not support the correlations of appearance attitude with vigor ( $r = .41, p = .0001$ ), psychological distress ( $r = -.28, p = .007$ ), fatigue ( $r = -.20, p = .054$ ), and cognitive age ( $r = -.21, p = .044$ ). It appears that the influences of the psychological variables on older men's appearance attitude may be mediated by other variables in the model.

### **Women's appearance attitude**

The results of hierarchical multiple regression can be found in Table 4.28. The final equation with the 13 independent variables was significant ( $F(13, 70) = 6.67, p = .0001$ ), accounting for 55 % of the variance of women's appearance attitude. Equation 1 with the demographic variables was not significant while Equation 2 ( $F(6, 77) = 4.51, p = .0006$ ), Equation 3 ( $F(9, 74) = 9.94, p = .0001$ ), and Equation 4 ( $F(10, 73) = 3.97, p = .0002$ ) were significant. The variances of appearance attitude explained by each Equation were: 2% (Equation 1), 26% (Equation 2), 55% (Equation 3), and 35% (Equation 4). The increases in the variance explained by adding each variable block were: 2% (demographic variables), 24% (aging-related variables), 29% (relationship-related variables), and 9% (psychological

Table 4.28. Hierarchical multiple regression estimating appearance attitude for women ( $N = 83$ )

Variables	Equation 1		Equation 2		Equation 3		Equation 4		Equation 5	
	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$
Age	.00 (0.240)	.03	.01 (0.936)	.10	.01 (1.003)	.10	.02 (1.466)	.21	.01 (.961)	.12
Education	-.06 (-0.917)	-.11	-.05 (-0.878)	-.09	-.03 (-0.603)	-.05	-.07 (-1.272)	-.13	-.04 (-0.796)	-.07
Incomes	.04 (0.847)	.10	.05 (1.002)	.10	.05 (1.147)	.10	.04 (0.894)	.09	.05 (1.173)	.11
Self-assessed health			-.02 (-0.245)	-.03	-.06 (-0.790)	-.07	-.21 (-1.754)	-.22	-.11 (-1.046)	-.12
Physical changes			<b>-.07 (-2.822)</b>	<b>-.30</b>	<b>-.07 (-3.567)</b>	<b>-.31</b>	-.04 (-1.899)	-.21	<b>-.06 (-3.054)</b>	<b>-.29</b>
Effect of physical changes			<b>-.24 (-2.862)</b>	<b>-.31</b>	<b>-.17 (-2.432)</b>	<b>-.22</b>	<b>-.20 (-2.348)</b>	-.26	<b>-.17 (-2.271)</b>	<b>-.22</b>
Evaluation of spouse's Attractiveness					.03 (0.403)	.04			.03 (0.376)	.04
Perceived attractiveness					<b>.49 (5.800)</b>	<b>.54</b>			<b>.46 (4.992)</b>	<b>.51</b>
Marital quality					-.03 (-0.392)	-.04			-.04 (-.488)	-.05
Cognitive age							-.15 (-1.287)	-.19	-.03 (-0.243)	-.05
Vigor							<b>.22 (2.036)</b>	<b>.26</b>	.07 (0.729)	-.08
Stress							-.33 (-1.866)	-.20	-.08 (-0.507)	-.05
Fatigue							.07 (0.774)	.08	.04 (0.535)	.05
MSR	0.24		1.67		2.34		1.35		1.64	
MSE	0.47		0.37		0.24		0.34		0.25	
$R^2$	.02		.26		.55		.35		.55	

t value in bold is significant at the significant level of .05.

variables). Similar to the results of analysis of men's appearance attitude, women's appearance attitude were explained mostly by aging-related and relationship-related variables.

**Demographic variables.** Age, education, and incomes were insignificantly related to appearance attitude. The insignificant relationships between appearance attitude and these variables suggest that older women's appearance attitude were not explained by their age, level of education completed, and household annual incomes.

**Aging-related variables.** Of three variables in this block, physical changes and effect of physical changes were inversely related to appearance attitude in Equation 5. Older women who experienced more physical changes associated with aging and whose feelings about themselves were more affected by these physical changes had less positive feelings about and lower satisfaction with their bodies and appearance.

**Relationship-related variables.** Perceived attractiveness was significantly related to appearance attitude, indicating that older women who perceived that their husband evaluated them as more attractive had more positive feelings about and greater satisfaction with their bodies and appearance. However, evaluation of spouse's attractiveness and marital quality were not significant estimators of appearance attitude even though their correlations with appearance attitude were significant (evaluation of spouse's attractiveness:  $r = .35, p = .0005$ ; marital quality:  $r = .29, p = .005$ ). The effects of these two variables on appearance attitudes may be mediated by perceived attractiveness or other variables already in the model.

**Psychological variables.** None of the psychological variables was significant in Equation 5, while vigor and psychological distress were significantly related to appearance attitude in Equation 4. These significant relationships also supported the correlations of appearance attitude with vigor ( $r = .30, p = .003$ ) and with psychological distress ( $r = -.28, p = .007$ ). However, these significant effects of vigor and psychological distress on appearance attitude disappeared when the relationship-related variables were entered into the equation, which implies that the effects of vigor and psychological distress on appearance attitudes may be indirect through the relationship-related variables.

### **Men's appearance orientation**

As shown in Table 4.29, the overall model was not significant. All of the independent variables combined were not effective to explain the degree to which older men placed importance on looking good and were oriented to appearance-related activities. However, Equation 3 was found close to significance ( $F(9,71) = 1.85, p = .073$ ), accounting for 19% of the variance of appearance orientation, which let the researcher examine further the relations between the independent variables used in Equation 3 and appearance orientation.

**Relationship-related variables.** In Equation 3 and 5, evaluation of spouse's attractiveness had a positive relationship to appearance orientation, indicating that older men who evaluated their wives as more attractive tended to pay more attention to how they look and to be more oriented to appearance-related activities.

### **Women's appearance orientation**

As shown in Table 4.30, the overall model (Equation 5) was significant ( $F(13, 70) = 2.33, p = .012$ ), accounting for 30 % of the variance of older women's appearance orientation. Only Equation 3 was significant ( $F(9, 74) = 3.41, p = .002$ ). The variances of appearance orientation explained by each equation were: 2% (Equation 1), 9% (Equation 2), 29% (Equation 3), and 13% (Equation 4). The increases in the variance explained by adding each variable block were: 2% (demographic variables), 7% (aging-related variables), 20% (relationship-related variables), and 4% (psychological variables). The results of hierarchical multiple regression suggest that the model with demographic variables, aging-related variables, and relationship-related variables was nearly as effective as the model with all four blocks of independent variables.

**Demographic variables.** In Equation 5, none of age, education, and incomes was significantly related to appearance orientation. In other words, older women's orientation to appearance-related activities was not related with their age, the level of education they finished, and their household annual incomes.

**Aging-related variables.** Physical changes had a significant inverse relationship with appearance orientation in Equation 5, indicating that older women who had experienced

Table 4.29. Hierarchical multiple regression estimating appearance orientation for men ( $N = 80$ )

Variables	Equation 1		Equation 2		Equation 3		Equation 4		Equation 5	
	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$	b ( <i>t</i> value)	$\beta$
Age	.00 (0.082)	.01	.00 (0.213)	.03	.00 (-0.121)	-.01	.01 (0.314)	.06	.01 (0.415)	.08
Education	-.06 (-1.231)	-.16	-.05 (-1.042)	-.14	-.09 (-1.914)	-.26	-.05 (-1.038)	-.15	-.09 (-1.640)	-.24
Incomes	.06 (1.347)	.18	.06 (1.366)	.19	.06 (1.372)	.18	.06 (1.255)	.18	.05 (1.081)	.16
Self-assessed health			.11 (1.239)	.15	.11 (1.375)	.16	.02 (0.226)	.03	.09 (0.735)	.01
Physical changes			-.01 (-0.381)	-.05	.00 (-0.028)	.00	-.00 (-0.133)	-.01	-.01 (0.244)	.03
Effect of physical changes			.06 (0.701)	.08	.05 (0.533)	.06	.06 (0.585)	.07	.03 (0.278)	.04
Evaluation of spouse's Attractiveness					.25 (2.482)	.35			.23 (2.197)	.32
Perceived attractiveness					-.03 (-0.230)	-.03			-.04 (-0.309)	-.05
Marital quality					.06 (0.860)	.10			.09 (1.046)	.15
Cognitive age							.02 (0.159)	.03	-.05 (-0.393)	-.09
Vigor							.13 (1.510)	.23	.04 (0.455)	.08
Stress							-.00 (-0.014)	-.00	.09 (0.537)	.08
Fatigue							-.02 (-1.153)	-.02	-.03 (-0.249)	-.04
MSR	0.23		0.25		0.52		0.23		0.38	
MSE	0.31		0.31		0.28		0.32		0.29	
$R^2$	.03		.06		.19		.10		.20	

*t* value in bold is significant at the significant level of .05.

Table 4.30. Hierarchical multiple regression estimating appearance orientation for women ( $N = 83$ )

Variables	Equation 1		Equation 2		Equation 3		Equation 4		Equation 5	
	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$	b (t value)	$\beta$
Age	.01 (0.688)	.08	.01 (0.870)	.11	.01 (0.997)	.10	.02 (1.376)	.23	.01 (0.886)	.14
Education	-.03 (-0.611)	-.07	-.03 (-0.510)	-.06	-.01 (-0.274)	-.03	-.04 (-0.822)	-.10	-.02 (-0.411)	-.05
Incomes	.02 (0.434)	.05	.02 (0.383)	.04	.03 (0.738)	.08	.02 (0.506)	.06	.04 (0.821)	.10
Self-assessed health			.04 (0.424)	.05	.00 (0.019)	.00	-.04 (-0.374)	-.05	.02 (0.155)	.02
Physical changes			<b>-.05 (-2.224)</b>	<b>-.26</b>	<b>-.05 (-2.645)</b>	<b>-.29</b>	-.04 (-1.623)	-.20	<b>-.05 (-2.433)</b>	<b>-.29</b>
Effect of physical changes			.01 (0.170)	.02	.06 (0.846)	.10	.02 (0.251)	.03	.05 (0.618)	.07
Evaluation of spouse's Attractiveness					-.03 (-0.312)	-.03			.00 (-0.048)	-.01
Perceived attractiveness					<b>.39 (4.308)</b>	<b>.50</b>			<b>.38 (3.826)</b>	<b>.49</b>
Marital quality					-.06 (-0.804)	-.10			-.06 (-0.705)	-.09
Cognitive age							-.12 (-1.050)	-.18	-.04 (-0.124)	-.02
Vigor							.11 (1.055)	.16	.01 (0.063)	.01
Stress							-.14 (-0.839)	-.11	.02 (0.087)	.01
Fatigue							.10 (1.164)	.15	.07 (0.901)	.10
MSR	0.14		0.41		0.92		0.38		0.66	
MSE	0.35		0.33		0.27		0.33		0.28	
$R^2$	.02		.09		.29		.13		.30	

t value in bold is significant at the significant level of .05.



fewer aging-related changes of the body and appearance were more oriented to appearance-related activities and were more concerned about how they look than were those who had experienced these changes more. Self-assessed health and effect of physical changes were not significant estimators of appearance orientation.

**Relationship-related variables.** Perceived attractiveness had a significant positive relationship with appearance orientation in Equation 5, suggesting that older women who perceived that their husbands evaluated them as more attractive tended to be more oriented to appearance-related activities and to place more importance on how they look. Evaluation of spouse's attractiveness and marital quality were not significantly related to appearance orientation.

**Psychological variables.** In Equation 5, cognitive age, vigor, psychological distress, and fatigue were not significantly related to appearance orientation. These insignificant relationships were also supported by the Pearson correlations.

As shown in Table 4.31 summarizing the results of multiple regression analyses, overall, the models explaining appearance attitude and appearance orientation for older men and women were significant except for the model explaining appearance orientation for older men. None of demographic and psychological variables was significant in Equation 5 across all regression analyses.

Among aging-related variables, self-assessed health was positively related to body attitude for men but not for women, suggesting that loss of physical competence and physical independence during the aging process may be more fearful for men's self concepts including sense of body image than those of women. Staying physically healthy in later years may reinforce older men's overall evaluation of their bodies and appearance and help them accept their aging bodies and appearance. A positive relationship between self-assessed health and feelings about the body among older men has been reported by Ross et al. (1989) and Wilcox (1997). However, the insignificant association between self-assessed health and body attitude for older women was inconsistent with previous findings by Loomis and Thomas (1991).

Table 4.31. Summary of multiple regression analyses estimating body image

Independent variables	<u>Men</u>		<u>Women</u>	
	AA <sup>a</sup>	AO <sup>b</sup>	AA <sup>a</sup>	AO <sup>b</sup>
Age	n.s.	n.s.	n.s.	n.s.
Education	n.s.	n.s.	n.s.	n.s.
Incomes	n.s.	n.s.	n.s.	n.s.
Self-assessed health	sig.(+)	n.s.	n.s.	n.s.
Physical changes	n.s.	n.s.	sig.(-)	sig.(-)
Effect of physical changes	n.s.	n.s.	sig.(-)	n.s.
Evaluation of spouse's attractiveness	sig.(+)	sig.(+)	n.s.	n.s.
Perceived attractiveness	sig.(+)	n.s.	sig.(+)	sig.(+)
Marital quality	n.s.	n.s.	n.s.	n.s.
Cognitive age	n.s.	n.s.	n.s.	n.s.
Vigor	n.s.	n.s.	n.s.	n.s.
Psychological distress	n.s.	n.s.	n.s.	n.s.
Fatigue	n.s.	n.s.	n.s.	n.s.
<i>F</i>	sig.	n.s.	sig.	sig.

<sup>a</sup> Appearance attitude<sup>b</sup> Appearance orientation

n.s.: non significant relationship

sig.: significant relationship

(+: positive relationship

(-): negative relationship

Interestingly, perceived physical changes associated with aging were found to damage only older women's feelings about and satisfaction with their bodies and appearance, not older men's. Although there was no significant difference in the scores of physical changes between men and women (see Table 4.8), older women had experienced more appearance-related changes such as wrinkles and moles in face, sagging skins, loss of firmness, or

increase in body fat while older men perceived more changes in body function such as decrease of eye sight, loss of strength, or loss of flexibility or balance. Women seem to be more sensitive to signs of aging in appearance than do men. This may have negative impact on women's feelings about and satisfaction with their bodies and appearance. These findings were similar to that reported by Gupta et al. (1993).

These results imply that older women have internalized the double standard of aging argued by Sontag (1979), that aging has more serious consequences for women than it does for men. In contemporary U.S. society, women tend to be judged more by physical appearance than do men throughout the lifespan. Departures from youthful appearance or socially accepted standards of beauty may therefore have greater psychological cost for women than for men. In addition to perceived physical changes associated with aging, older women's feelings about their bodies and appearance were subject to the degree to which older women's feelings about themselves were influenced by these perceived physical changes. Women who thought that aging-related changes of their bodies and appearance affected their self-concepts more showed more negative attitudes toward and more dissatisfaction with their bodies and appearance.

Regardless of gender, older persons' feelings about and satisfaction with their bodies and appearance appear to be largely dependent on their perception of how their spouses evaluate their appearance. These results provided empirical evidence for the reflected self from the perspective of symbolic interaction (Mead, 1934). A positive reaction to one's appearance from one's spouse may reinforce self-appraisal of own appearance. Similar effects of reflected appraisals on self-appraisals of self-concepts or behaviors have been found in previous studies by Ichiyama (1993) and May (1991).

Older men's actual evaluation of their spouse's appearance was significantly positively related to men's feelings about and satisfaction with their own bodies and appearance. However, women's actual evaluation of their spouse's appearance was not related to wives' feelings about and satisfaction with their own bodies and appearance. These findings were inconsistent with the previous findings that in long-term marriages, husbands' attractiveness was emphasized more than wives' attractiveness and wives' positive evaluation

of husbands' appearance was related with wives' self-evaluation of their own appearance (i.e., Webb, Delaney, & Young, 1989).

No significant relationship between negative moods and feelings about the body and appearance among older men and women emerging from this study was in direct contrast to the findings of previous studies (Davis & Katzman, 1997; Grubb, Sellers, & Waligroski, 1993; Koenig & Wasserman, 1995; Maximin, 1989); however, these previous studies focused on bivariate relationships between negative moods such as depression and body image. In this present study, significant associations between negative (or positive) moods and appearance attitude in bivariate analyses became insignificant in multivariate analyses. In other words, the effects of mood states on attitudes toward the body and appearance were meaningful when the effects of mood states were looked at in isolation, but were irrelevant when they were examined in combination with other variables. The possible influences of negative (or positive) moods on one's feelings about the body and appearance may be mediated by those of other variables.

Contrary to the expectation that older persons who feel younger would have more positive evaluations of their bodies and appearance (i.e., Barak, 1998), no association between cognitive age and appearance attitude was found from the results of multiple regression. This finding did not support the previous findings by Barak and Rahtz (1989) and Wilkes (1992) that cognitive younger age was positively related with greater self-confidence and self-esteem.

Although no hypothesized relationship was proposed in estimating older persons' appearance orientation, several significant relationships emerged from the results of multiple regression. Older men who perceived their spouse as more attractive tended to be more concerned about how they looked and more oriented to appearance-related activities while older women who perceived that their spouse evaluated them as more attractive showed greater concerns about and higher orientation to appearance. Among the marital dyads studied here, wives' appearance seems to have greater influence on husbands' sense of body image. On the other hand, wives' sense of body image appears to be greatly affected by their judgements of their spouse's appraisals.

In addition, older women who perceived less aging-related physical change showed more orientation to appearance-related activities and placed greater importance on how they looked. One's body image is a picture of his or her lifelong relationship with the body. Women who have been always concerned about the way they are seen by others and more interested in attractiveness-enhancement activities may be more inclined to believe that signs of aging on their appearance such as wrinkles or sagging skins would result in declines in their attractiveness and have negative impact on their interactions with others in this youth-oriented culture. Older women with greater concerns about the impression they make may have taken good care of their bodies and appearance during young and middle-aged years; therefore, their aging process may more slowly proceed than those of others their age, and these women may actually perceive fewer changes of their bodies and appearance.

Based on the findings of multiple regression analyses, hypotheses predicting the relationships between these independent variables and feelings about the body and appearance (appearance attitude) were tested. The results of the hypothesis testing are presented in Table 4.32.

Table 4.32. Summary of hypothesis test regarding body image

Hypotheses		<u>M</u> <sup>a</sup>	<u>W</u> <sup>b</sup>
H <sub>3-1</sub>	Older persons who have experienced more aging-related changes of their bodies and appearance feel less positive about their bodies and appearance than do those who experience fewer changes.	n.s.	s.
H <sub>3-2</sub>	Older persons who feel healthier feel more positive about their bodies and appearance than do those who feel less healthy.	s.	n.s.
H <sub>3-3</sub>	Older persons who perceive that their spouses evaluate their bodies as more attractive feel more positive about their bodies and appearance than do those who perceive that their spouses evaluate their bodies as less attractive.	s.	s.
H <sub>3-4</sub>	Older persons who evaluate their spouse as more attractive feel more positive about their own bodies and appearance than do those who evaluate their spouse as less attractive.	s.	n.s.

Table 4.32. (continued)

Hypotheses		<u>M</u> <sup>a</sup>	<u>W</u> <sup>b</sup>
H <sub>3-5</sub>	Older persons who are more satisfied with their marriage feel more positive about their bodies and appearance than do those who are less satisfied with their marriage.	n.s.	n.s.
H <sub>3-6</sub>	Older persons who are cognitively younger feel more positive about their bodies and appearance than do those who are cognitively older.	n.s.	n.s.
H <sub>3-7</sub>	Older persons who have more positive mood feel more positive about their bodies and appearance than those who have less positive mood.	n.s.	n.s.
H <sub>3-8</sub>	Older persons who have more negative mood feel less positive about their bodies and appearance than those who have less negative mood.	n.s.	n.s.

<sup>a</sup> Men; <sup>b</sup> Women

n.s.: Hypothesis was not supported by the data. s.: Hypothesis was supported by the data.

### Structural Equation Modeling

Three nested models were compared using structural equation modeling to test older husbands' and wives' interdependence in perception of appearance. First, it was hypothesized that older husbands' and wives' self-assessment of appearance (husbands' and wives' appearance attitude) would be correlated. Second, it was expected that there would be a correspondence between husbands' self-assessment of their appearance (husbands' appearance attitude) and wives' actual evaluation of their husband's appearance (wives' evaluation of spouse's attractiveness). Likewise, the same agreement was expected between wives' self-assessment of their appearance (wives' appearance attitude) and husbands' actual evaluation of their wives' appearance (husbands' evaluation of spouse's attractiveness).

In a null model, no path was predicted between husbands' and wives' evaluation of spouse's attractiveness and husbands' and wives' appearance attitude. Since the correlation between husbands' and wives' self-assessment of appearance was hypothesized, the residuals between two endogenous variables ( $Y_1$  and  $Y_2$ ) were correlated. In the hypothesized model, two paths ( $\gamma_{11}$  and  $\gamma_{22}$ ) were added to the null model to test hypothesized relationships.

Finally, a fully recursive model was compared with the hypothesized model to examine if the more parsimonious second model was effective.

Table 4.33 presents the correlations between the four variables used in the structural equation modeling. Husbands' appearance attitude was positively correlated with wives' appearance attitude. Likewise, a positive relationship was found between husbands' evaluation of their wives' attractiveness and wives' evaluation of their husbands' attractiveness.

These correlations were reflected in the null model (see Figure 2). The residuals of husbands' self-assessment of their own appearance and wives' self-assessment of their own appearance were significantly correlated. The path coefficient predicting a relationship from wives' evaluation of their husband's attractiveness to husbands' self-assessment of their own appearance was significant, indicating wives' positive evaluation of husbands' appearance had a positive influence on husbands' feelings about and satisfaction with their bodies and appearance. Likewise, the path from husbands' evaluation of their wife's attractiveness to wives' appearance attitude was also found significant, suggesting husbands' positive evaluation of their wives' appearance positively affected wives' feelings about and satisfaction with their bodies and appearance. When the two hypothesized paths were imposed to the null model, the correlation between the residuals of husbands' and wives' appearance attitude ( $Y_1$  and  $Y_2$ ) became insignificant. The significant correlation between

Table 4.33. Correlations among the variables in the model

	WHA	WWA	HWA	HHH
$X_1$ : WHA	1.00			
$Y_1$ : WWA	.36***	1.00		
$X_2$ : HWA	.32**	.44***	1.00	
$Y_2$ : HHA	.38***	.28	.34***	1.00

\* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

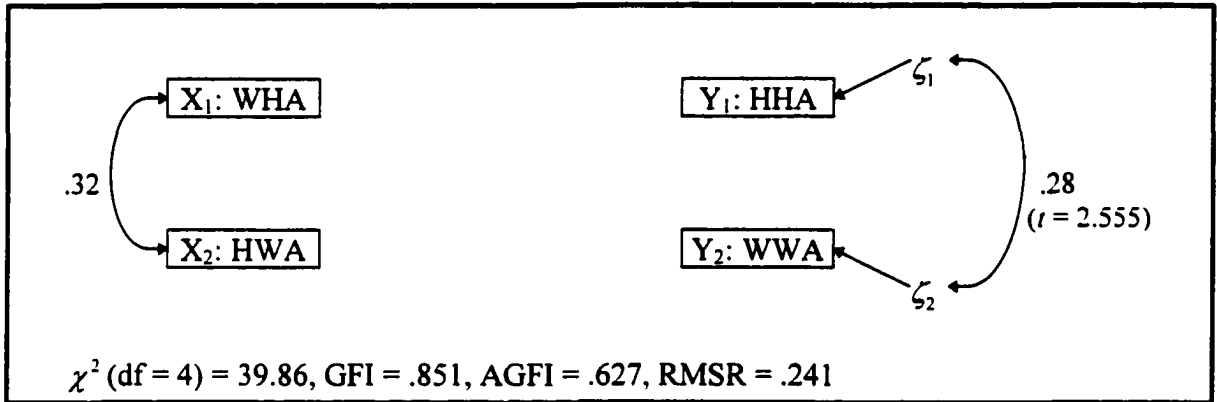


Figure 2. A null model

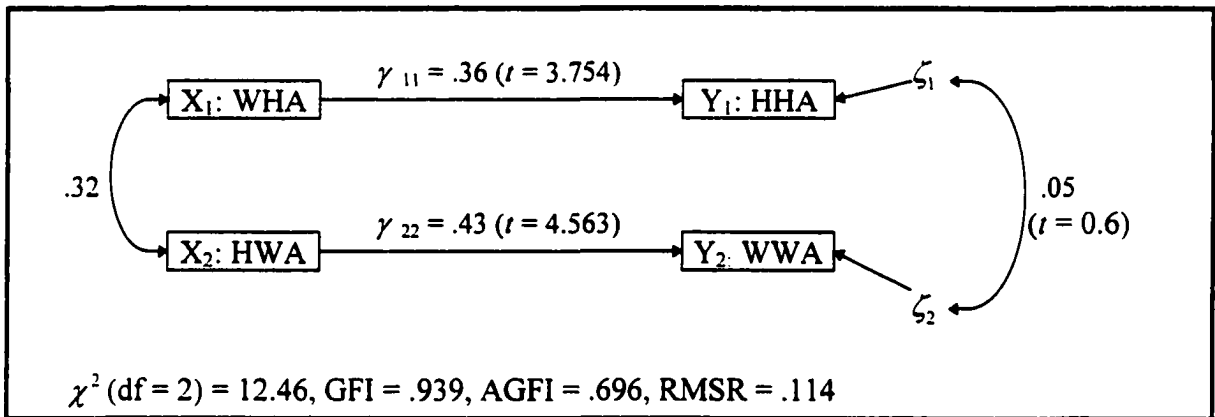


Figure 3. A hypothesized model

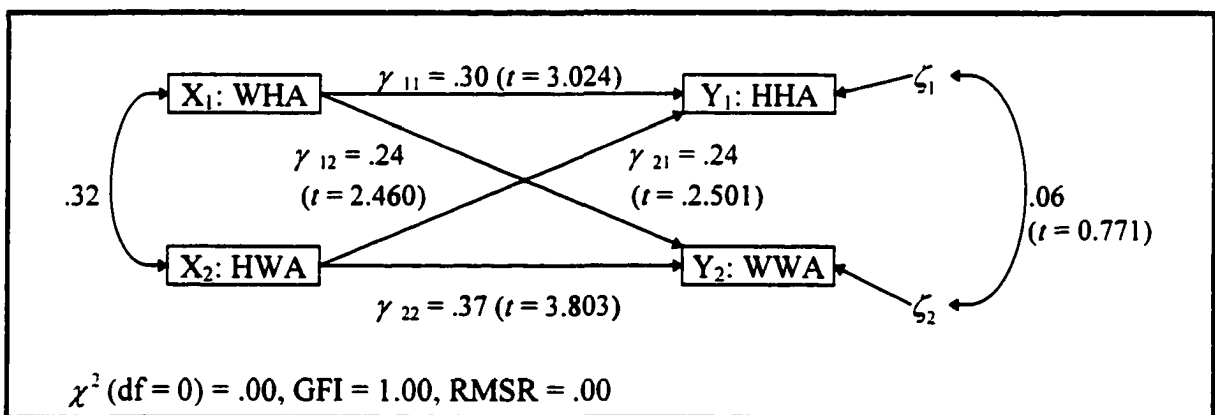


Figure 4. A fully recursive model



husbands' and wives' self- assessment of their own appearance may have existed because wives evaluated their husband's appearance in a way in which husbands evaluated their wives' appearance and husbands' and wives' actual evaluation of their spouse's appearance simultaneously affect husbands' and wives' self-assessment of their own appearance (see Figure 3).

In a fully recursive model (see Figure 4), two more paths ( $\gamma_{12}$  and  $\gamma_{21}$ ) were controlled. The correlation between the residuals remained insignificant while the hypothesized paths ( $\gamma_{11}$  and  $\gamma_{22}$ ) were still significant. The path from wives' evaluation of their husbands' attractiveness to wives' appearance attitude ( $\gamma_{21}$ ) was significant, indicating that wives' positive evaluation of their husbands' appearance had a positive impact on wives' feelings about and satisfaction with their own bodies and appearance. Similarly, the path from husbands' evaluation of their wives' attractiveness to husbands' appearance attitude ( $\gamma_{12}$ ) was significant, suggesting that husbands' positive evaluation of their wives' appearance positively affected husbands' feelings about and satisfaction with their own bodies and appearance. When the paths ( $\gamma_{12}$  and  $\gamma_{21}$ ) were compared with the hypothesized paths ( $\gamma_{11}$  and  $\gamma_{22}$ ), the magnitudes of the path coefficients of the hypothesized paths ( $\gamma_{11}$  and  $\gamma_{22}$ ) were greater than those of the path coefficients of relationships between variables held by husbands and wives respectively ( $\gamma_{12}$  and  $\gamma_{21}$ ). These results indicated that in marital dyads, husbands' feelings about or satisfaction with their own bodies and appearance were predicted more strongly by wives' actual evaluation of their husbands' appearance than the husbands' evaluation of their own appearance. Similarly, wives' feelings about or satisfaction with their own bodies and appearance were predicted more strongly by husbands' actual evaluation of their wives' appearance than the wives' evaluation of their own appearance.

In addition, differences of  $\chi^2$  between models were computed. The differences of  $\chi^2$  ( $\Delta\chi^2$   $M_2-M_1$ ) between the null model and the hypothesized model was significant ( $\Delta\chi^2$   $M_2-M_1$  (df=2) = 27.4) at the critical value of probability ( $\alpha = .05$ ). The differences of  $\chi^2$  between the hypothesized model and the fully recursive model was also significant

( $\Delta\chi^2 M_3-M_2$  (df = 2) = 12.46). Based on the fact that the differences of  $\chi^2$  between the null model and the hypothesized model were greater than those of  $\chi^2$  between the hypothesized model and the fully recursive model, the improvements in the overall fit of the model by adding the two hypothesized paths were greater than were the improvements by imposing two additional paths in the fully recursive model. Therefore, it was concluded that the hypothesized model was a better model than a null model and a more parsimonious model than the fully recursive model to explain spousal interdependence in perception of appearance.

Table 4.34. presents the results of hypothesis testing examining coorientation effects in perception of appearance in marital dyads.

Table 4.34. Summary of hypothesis test regarding spousal interdependence in perception of appearance

Hypotheses		Result
H <sub>4-1</sub>	Husband's self-assessment of his appearance is positively correlated with wife's self-assessment of her appearance.	s.
H <sub>4-2a</sub>	Husband's actual evaluation of wife's appearance significantly affect wife's self-assessment of her appearance.	s.
H <sub>4-2b</sub>	Wife's actual evaluation of husband's appearance significantly affect husband's self-assessment of his appearance.	s.
H <sub>4-3</sub>	Husband's actual evaluation of wife's appearance is positively correlated with wife's actual evaluation of husband's appearance.	s.

s.: Hypothesis was supported by the data.

## **CHAPTER 5: SUMMARY AND CONCLUSIONS**

### **Summary of Research**

Due to sizable increases in population and socioeconomic well-being of older people, efforts made to understand the characteristics of this population are highly important. As older people experience aging-related changes of the body and appearance, their feelings or attitudes toward the body and appearance may undergo changes as well. Older persons' sense of body image may be related to their engagement in appearance management practices.

Little effort has been made to understand older persons' body image even though body image is closely related to self-concept, psychological well-being, and behaviors regarding the body or impression management. Therefore, this study examined the factors explaining body image among older persons. Aging-related variables, relationship-related variables, psychological variables, and demographic variables were examined in relation to older persons' body image. Among the factors, spousal influences on older individuals' perception of their body image were examined in this study based on the notion that in intimate dyads, an individual's perception of the self depends on the other's evaluation of the individual.

The purposes of this study were: (1) to examine the relationship between older persons' body image and their engagement in appearance management practices; (2) to explore the factors explaining older persons' body image; and (3) to test a model of spousal interdependence in the appearance perception of older marital dyads. Variables used to measure older persons' engagement in appearance management practices were exercise, dieting, use of anti-aging products and techniques, daily grooming, apparel shopping, and apparel expenditures. The factors influencing older persons' body image included aging-related variables (aging-related physical changes, self-assessed health, effect of physical changes on the self), relationship-related variables (marital quality, evaluation of spouse's attractiveness, perceived attractiveness), psychological variables (cognitive age, and mood

states -- vigor, psychological distress, fatigue), and demographic variables (age, education, incomes).

Based on the review of previous literature pertaining to body image, appearance management, and the aging process, the survey questionnaire was developed. The questionnaire was sent to a total of 194 married couples, aged 60 and older, residing in an independent dwelling, and living in three Florida cities. Before the mailing, the 194 married couples were contacted by the researchers via telephone and agreed to participate in this study. A total of 129 married couples returned the questionnaire after three mailings, yielding 66.5% return rates of both usable and unusable questionnaires. Finally, questionnaires from 94 married couples were entered into further data analysis.

The results of respondent demographic analysis showed that men ranged in age from 60 to 95, with an average age of 74.65 years. Women ranged in age from 60 to 90, with an average age of 72.12 years. The majority of participants were retired and White or European Americans. The average length of living with a current spouse was 43.6 years. The average annual income from all sources before taxes was between \$35,000 and \$49,999.

Data analysis consisted of two parts: preliminary analysis and main analysis including hypothesis testing. Preliminary analysis of the research data included univariate analysis, exploratory factor analysis, and correlation analysis. Principal components factor analysis with varimax rotation was used for the measures of body image, marital relationship, and dieting to identify the underlying latent concepts of the variables. For the measure of mood states, an oblique rotation was used to be consistent with the factor structure identified by the developers of the measure. Since this study was intended to compare older men and older women in body image and engagement on appearance management practices, all statistical data analyses were performed separately for men and women, and the items included in creating composite scores for the study variables were chosen by incorporating both men's and women's results. Pearson correlations between all possible pairs among the study variables provided preliminary evidence of possible relations existing in the data.

### **Results of factor analyses**

The results of factor analysis of the measures of body image provided a two-factor solution which was labeled *Appearance Attitude* and *Appearance Orientation*. Appearance Attitude included items regarding the feelings about the body and appearance and the satisfaction with body parts. Appearance Orientation included items measuring the importance placed on appearance and the orientation to appearance-related activities. The results of the factor analysis for marital relationship and dieting generated one-factor solutions. For marital relationship, a factor labeled *Marital Quality* reflected a satisfactory and happy marriage. A factor named *Dieting* measured attitudes toward dieting and current dieting behaviors. The measures of mood states among older men and women generated six factors labeled Vigor, Fatigue, Confusion, Anger, Depression, and Tense. However, items included in these original factors were inconsistent for men and women. In addition, Anger, Depression, and Tense have been found to predict a latent concept of psychological distress (Mirowsky & Ross, 1989). After examining inter-item correlations among items of Anger, Depression, and Tense, items in these three factors were combined to create the variable Psychological Distress. Therefore, *Vigor*, *Fatigue*, *Psychological Distress* were used in further data analysis.

### **Results of hypothesis testing**

The results of paired comparisons *t* tests indicated that older women had less positive feelings about and less satisfaction with their bodies and appearance than did older men. However, older women were found to engage more in appearance management practices such as dieting, use of anti-aging products and techniques, daily grooming, and apparel shopping and expenditures. Besides these two hypothesized comparisons, women placed more importance on how they looked and were more oriented to appearance-related activities than were men.

The results of multiple regression estimating engagement in appearance management practices with two body image variables as independent variables -- appearance attitude and appearance orientation -- showed several significant relationships between older persons' body image and their engagement in appearance management. For men, the regression model

was significant in estimating their engagement in dieting and apparel expenditures and close to significance in explaining their use of anti-aging products and techniques and daily grooming. For women, the regression model was significant in explaining their engagement in dieting and daily grooming.

Specifically, a positive relationship was found between feelings about the body and appearance and engagement in exercise among older women. Older women who felt more positive about and greater satisfaction with their bodies and appearance were likely to exercise more. These findings were inconsistent with a previous study by Finkenberg, DiNucci, McCune, and McCune (1993) which found that college student's participation in classes requiring physical activity did not improve their scores on body esteem scales (sexual attractiveness, weight concern, physical conditioning). Older persons' voluntary participation in exercise seem to have positive psychological outcomes including positive body image, and these positive feelings about their bodies and appearance may motivate older people to maintain their exercise regimen.

For both men and women, feelings about and satisfaction with the body and appearance were inversely related with engagement in dieting. Older persons with less positive feeling about and less satisfaction with their bodies and appearance tended to diet more to control weight. This finding was similar to the finding by Gupta (1995). Weight gain was reported both by the older men and the older women as one of the more frequently perceived changes of the body during the aging process. In this contemporary U.S. culture, regardless of age and gender, people try to avoid unnecessary increases in weight. This trend may influence older persons' daily eating behaviors as they experience weight gain.

Hypotheses predicting positive relations between feelings about the body and engagement in other types of appearance management (use of anti-aging products and techniques, daily grooming, apparel shopping and expenditures) were not supported by the data. In other words, older persons' attitudes toward and satisfaction with their bodies and appearance were irrelevant or weakly related to their consumption of anti-aging products and techniques, the amount of time spent to make themselves ready for a typical day, and the amount of time and money spent on shopping for new dress and shoes. These findings were

incongruent with previous findings with other age groups (Bloch & Richins, 1992; Cash & Cash, 1982; Miller & Cox, 1982; Shim & Kotsiopulos, 1990). These insignificant relationships may be partly due to overall decreases in older people's apparel and cosmetics consumption activities. And, since the men and the women in this present study who had cosmetic surgery were rare, the relationship between feelings about the body and use of cosmetic surgery to correct the (aging) appearance was not successfully examined.

With regard to appearance orientation, older men who were more concerned about looking good and were more oriented to appearance-related activities showed higher tendency to color hair, to wear a wig, to take anti-aging drugs or hormones, to wear sunblock, and to purchase more apparel-related products. On the other hand, older women's engagement in appearance management practices seemed to be irrelevant to the degree to which they place importance on appearance; women are generally oriented to appearance-related activities. These results imply that women are socially encouraged to engage more in appearance-enhancement activities regardless of their attitudes toward the body and appearance.

To explore what combination of independent variables best estimated the body image variables, multiple regression with hierarchical procedures was used. For men, self-assessed health, evaluation of spouse's attractiveness, and perceived attractiveness were significantly related to appearance attitude. In other words, older men who felt healthier, evaluated their spouse's appearance as more attractive, and perceived that their spouses evaluated them as more attractive were likely to feel more positive about and had greater satisfaction with their bodies and appearance. For women, physical changes, effect of physical changes, and perceived attractiveness were significantly associated with appearance attitude. Older women who perceived fewer aging-related changes of the body and appearance, whose feelings about themselves were less affected by these changes, and perceived that their spouse evaluated them as more attractive held more positive feelings about and greater satisfaction with their bodies and appearance. Overall, older persons' feelings about and satisfaction with their bodies and appearance were primarily estimated by aging-related and relationship-related variables.

The positive relationship between self-assessed health and feelings about the body and appearance was accordant with previous findings by Ross et al. (1989) and Wilcox (1997). As expected, aging-related changes of the body and appearance appear to threaten older women's feelings about and satisfaction with their bodies and appearance. In addition, women who experienced fewer physical changes were more concerned with their looks and were more oriented to appearance-related activities. Interestingly, older men, compared to older women, noticed less change of physical appearance such as wrinkles or sagging skins; as a consequence, older men's feelings about and satisfaction with their bodies and appearance were not necessarily influenced by their perception of these physical changes.

Older men's and women's feelings about and satisfaction with their bodies and appearance seem to be largely dependent on their perception of how their spouse would evaluate their own appearance. This findings supported the reflected self-concept from symbolic interaction discussed by Mead (1934). Women's perception of their spouse's appraisals of their appearance was closely related to women's orientation to appearance-related activities. Older women who feel supported by their spouse may be more involved in attractiveness-enhancement activities to keep their spouse's positive appraisals of their appearance.

Significant influence of men's evaluation of spouse's appearance on the men's feelings about and satisfaction with their own bodies and appearance was in contrast to previous findings by Peterson and Miller (1980) and Murstein and Christy (1976). Men's evaluation of spouse's attractiveness also had a significantly positive relationship to appearance orientation, indicating that men who evaluated their spouse as more attractive placed greater attention to how they looked and were more oriented to appearance-related activities.

Analysis of structural equation modeling revealed that (1) husbands' self-assessment of their own appearance corresponded to wives' self-assessment of their own appearance; (2) wives' actual evaluation of their husband's appearance significantly affected husbands' self-assessment of their own appearance; (3) husbands' actual evaluation of their wife's appearance significantly affected wives' self-assessment of their own appearance; and (4) the



correlation in self-assessment of appearance between husbands and wives existed because wives evaluated their husbands' appearance in a way in which husbands evaluated their wives' appearance, and husbands' and wives' actual evaluation of their spouse's appearance simultaneously influenced husbands' and wives' self-assessment of their own appearance in a similar fashion. In other words, in long-term marital dyads, a person's evaluation of his or her physical body is dependent on his or her spouse's evaluation of the person's appearance. This spousal influence is reciprocal between two spouses. Husbands' and wives' feelings about their bodies and appearance are similar because of two types of coorientation effects, namely self-other agreement and reciprocity.

### **Conclusions**

Although aging occurs in everyone and brings about changes of the body and appearance, little has been known about how attitudes toward or evaluation of the body and appearance change during the aging process. Individuals' relation to their own bodies and appearance may reflect their own definition of who they are and have profound implications for their behaviors and interactions with others. With considerable increases in the population and economic power of the older generation, today's older individuals' lifestyles have changed dramatically. Older people have become more interested and involved in controlling their aging bodies and in improving their aging appearance. Based on the findings of previous qualitative studies suggesting a possible relationship between one's feelings about the body and appearance and appearance management practices (Hennessy, 1989; Thompson & Hirshman, 1995), this study was designed to explore the relation between body image and engagement in appearance management practices employed by older people.

Since it was expected that men and women respond to the aging process differently (Deutsch, Zalenski, & Clark, 1986), all of the data analyses were performed separately between older men and women. The results of this study clearly presented gender differences in body image and engagement in various appearance management practices among older persons. Older women felt more negative about and less satisfied with their bodies and appearance than did older men. However, women engaged more in activities to manage their

bodies and appearance than did men. In the same vein, older women were more concerned about how they looked and more oriented to appearance-related activities. Getting older, especially losing youthful appearance seems to take more toll on women's feelings about the self including the physical self.

With regard to the relation between body image and engagement in appearance management practices, older men showed stronger associations between these two variables. Lack of significant association between body image and appearance management for older women may be attributed to the fact that women are socialized to make continuous efforts to maintain their physical appearance close to the beauty standards of a particular time and a place (Saltzberg & Chrisler, 1995). Therefore, regardless of their body image, women are in general more involved in activities to preserve their youthful appearance and to reduce any sign of aging on their appearance.

Interestingly, for both men and women, negative feelings about and dissatisfaction with their bodies and appearance were significantly related to their engagement in dieting. Proper dieting to reduce a little extra fat or to maintain a current body weight may not be dangerous; however, excessive dieting can lead to eating disorders which have significant physical and psychological consequences for older people's health. Dieting or eating disorders among older people have not received much attention by researchers, even though the process of aging brings many changes that can influence the development of restrained eating or eating disorders (Larocca & Goodner, 1988). Older people experience increases in the percentage of body fat and decreases in lean body mass (Krause & Mahan, 1984). Older persons' dissatisfaction and negative attitudes about their bodies and appearance may lead them to change eating patterns, to skip meals, or to avoid consuming certain foods. Unbalanced nutrition or restrained eating may have severe consequences for older peoples' physical health as well as psychological health.

Older persons, women especially and men who are concerned about their public images, tend to be more interested in grooming and apparel shopping. Deliberately prepared appearance and age-appropriate clothing may help older people express who they are to others they encounter and separate themselves from the typical image associated with old

age. With regard to the apparel industry, little is known about the apparel market for men after retirement. Older men and women may buy new clothes not only to fulfill physical needs but also to maintain personal identity or to create new images.

### **Factors influencing older persons' body image**

Older persons' feelings about and satisfaction with their bodies and appearance were largely related to physical factors and relationship-related factors. Men's body image was more significantly related to self-assessed health while women's body image was more closely associated with aging-related physical changes. For older men, loss of strength and autonomy may threaten their self-concepts including their sense of body image. Signs of aging especially in appearance may damage women's evaluation of their bodies and appearance. Men and women differ in their experiences of body awareness, such that when women are attentive to their bodies, the feelings they experience are significantly more negative than are those of men. In addition, women tend to scrutinize specific body parts or functions while men exhibit a greater tendency to see the body as a whole (Fisher, 1964; Franzoi, Kessenich, & Sugrue, 1989). Older men's body image may be dependent on their overall feelings of body competence while older women's body image may be disrupted by signs of aging appearance in body parts such as face, hands, or neck. Further research is needed to investigate how differently men and women experience their aging bodies.

### **Coorientation effect among older married dyads**

Interestingly, older people's feelings about and satisfaction with their bodies and appearance largely depended on their impression of how their spouse evaluated their appearance. Within the symbolic interaction perspective, Shrauger and Schoeneman (1979) stated that "...there must be a congruence between people's self-perceptions and how they feel others see them" (p. 522). The significant relationship between one's feelings of the body and appearance and his or her judgement of spouse's appraisals lent support to the concept of reflected-self in symbolic interaction.

Within a dyadic relationship, one partner's perception of the self and of the other may be reciprocal and interdependent with those of the other. To analyze the data from both husbands and wives, Kenny's (1988) social relations analysis provided a theoretical

framework of the model tested in this study. Correspondence between husbands' and wives' self-assessment of the body and appearance was found among older married couples. The results of the model evaluation suggest that this correspondence between husbands' and wives' self-perception can be explained by coorientation between these two spouses. Husbands evaluate their spouse's appearance in the similar way in which wives evaluate their spouse's appearance, which explains 'reciprocity', i.e., if one person sees the other as attractive, then the other sees the person attractive as well. Reciprocity increases with repeated interactions between two partners (Kenny & La Voie, 1982). Older husbands' evaluation of their spouse's appearance successfully predicted their wives' self-assessment of their own appearance (self-other agreement); older wives' evaluation of their spouse's appearance contributed to their husbands' self-assessment of their own appearance (self-other agreement). Therefore, older married partners' favorable, positive verbal or nonverbal exchanges regarding each other's appearance over time may continuously influence both partners' self-perception in a similar way. Agreement in two partners' evaluation of their own appearance can be explained by two types of coorientation effects, reciprocity and self-other agreement. More empirical research is needed to investigate whether these coorientation effects exist in other aspects of the self and in other dyadic relationships.

### **Limitations**

The results of this study should be evaluated in the light of certain limitations. First, respondents' involvement in appearance management practices were limited to six activities. Although the six activities are common ways to control or to shape the body and appearance, they may not fully reflect ways older persons become involved in appearance management. In addition, the measures of body image have been criticized as focusing on certain aspects of body image and may not represent one's feelings about the body as a whole. Similarly, measures assessing one's evaluation of spouse's appearance and one's perception of spouse's actual appraisals included items pertaining to attractiveness and satisfaction. Other aspects of the body concept such as sexuality, capability, or healthiness may have influence on interpersonal perception of appearance.

Second, the survey was limited to older people living in Florida, married, and generally healthy both physically and mentally. Thus, findings may not be generalizable to older persons in other regional areas, to older persons who are never married, divorced, or widowed, or to those who are frail. Also, all the married couples who participated in this study showed fairly high marital satisfaction; therefore, the results of data analysis involving marital relation-related variables could be somewhat biased. In the same vein, the older persons who participated in this study may have held fairly positive attitudes toward themselves including their physical bodies and appearance; therefore, they may have felt more comfortable to express their feelings about their bodies and appearance.

Third, it was possible that one spouse's answer may have been influenced by the other spouse while they were answering the questionnaires. Due to the nature of mailing surveys, these potential problems were not completely controlled.

### **Implications**

This study contributes significantly to understanding older persons' perception of the body and appearance and its influences on their engagement in appearance management practices. Especially, this study found that older men's engagement in appearance management activities was related to their orientation to the body and appearance. In addition, this study identified several factors influencing older persons' body image. In later years, having positive body image contributes to older persons' psychological well-being. Understanding the factors related to the formation of body image among older persons may help researchers or social workers to prevent or intervene in potential problems related to negative body image among older persons. Also, the findings may help older individuals understand why they feel the way they do.

The results of a model of spousal interdependency in perception of appearance provide a new way to analyze data from marital dyads. Incorporating more than two perspectives could enrich our understanding of interpersonal perception in marital dyads. The model tested in this study provided evidence for relational influences on perception of

body image in dyads. This has never before been empirically demonstrated for any age group.

### **Recommendations for Future Research**

This research has provided a significant, but still only a small amount of information, about older person's body image and appearance management practices. Further research is needed to explore the relations found significant in this study.

Older men and women may experience aging differently and define physical attractiveness differently. Qualitative research is suggested to explore important constructs constituting older individuals' sense of body image. The way older individuals define physical attractiveness may have implications for their behaviors to manage their appearance. It may be informative to find segments or clusters of men and women based on their feelings about the body and engagement in appearance management activities. People in different segments may vary in their personal characteristics, environmental characteristics, relational characteristics, and so on. Also, most previous studies involving the older population have used the body image measures developed from studies involving the young population. As people age, they often change their definitions of attractiveness, fitness, and beauty. Also the meaning of the physical body to the self may be altered as they move into different stages of life. Further research is suggested to define the meanings of attractiveness or beauty among the older population and new instruments measuring the concepts of body image appropriate for these older people are called for.

To understand how one's body image changes during the aging process, longitudinal research is suggested. Although the aging process is universal, one's experience of aging varies depending on his or her physical, psychological, cultural, and relational factors. No previous attempt has been made to examine how one's body image changes through different life stages. One's life experience may be recorded in their sense of body image.

The spousal influences identified in this study need further exploration. Repeated and continuous spouse's appraisals of the body may attribute to self-assessment of the body. As discussed earlier, this relationship can be mediated by the concept of reflected self. The

content of messages exchanged between marital spouses may have difference behavioral consequences. For example, continuously receiving positive appraisals of the body from the significant other may motivate people to enhance their attractiveness or to improve their appearance by using more positive, less painful ways such as exercise. On the contrary, accumulated criticism on the body from the other may distort peoples' body image, leading to excessive dieting or eating disorders. Including married couples with some problems or difficulties in future research as well as satisfactory and happy couples is necessary to explore various relational influences on perception of the body.

**APPENDIX A: MAILING MATERIALS**



February 8, 1999

Dear consumer:


I truly enjoyed talking with you on the phone the other day. Thank you for your interest in this study of body image and appearance management of older consumers. This study is designed to learn more about how older married consumers feel about the body during the aging process, and we are also studying how people dress, exercise, and diet their bodies to stay healthy and shape appearance. Very little research has been conducted in this area. Your responses will increase understanding of how people adjust to changes they experience in the aging process.

The enclosed questionnaire contains questions about your background, physical changes in your body related to the aging process, your relationship with your spouse, your mood during the past week, your feelings about your body, and various appearance management practices. No answer is wrong or right. We want to find out what you have experienced, felt, and done. It will take approximately 30-40 minutes to complete the questionnaire. There are two questionnaires - **green one for the husband and yellow one for the wife**. Please answer the questions without discussing with your spouse. We don't want your answer influenced by your spouse.

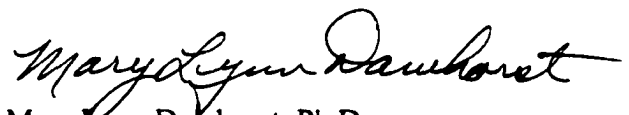
If answering a question will make you uncomfortable, you may choose not to answer it. All information will be kept completely confidential. Your name will not be attached in any way to the questionnaire after it is received in the mail. In addition, you may choose at any point not to complete the materials and to return them to me at no penalty to yourself.

Please return the completed questionnaire within one week or as soon as possible. Postage will be paid by us, so please put the questionnaire in the envelope provided and mail it back. Your help in this study is a great contribution to this project. If you have any questions, please feel free to call us, KeunYoung Oh, at 515-294-0948, or Dr. Mary Lynn Damhorst, at 515-294-9919. Or you may fax your questions to us at 515-294-6364. We appreciate very much your assistance.

Sincerely,



KeunYoung Oh  
Ph.D. Candidate  
kyoh@iastate.edu



Mary Lynn Damhorst, Ph.D.  
Associate Professor  
mldmhrst@iastate.edu

**IOWA STATE UNIVERSITY****A reminder...**

We recently mailed you a survey on Body Image and Appearance Management of Older Consumers. If you have returned the survey, thank you very much for your participation. If you have not already completed it, we hope that you will set aside some time to do so.

If you did not receive the questionnaire or have misplaced it, please call us at (515) 294-0948, fax us at (515) 294-6364, or e-mail to an address below and we will send another one to you. Thank you,

KeunYoung Oh, M.S.  
Doctoral Student  
kyoh@iastate.edu

Mary Lynn Damhorst, Ph.D.  
Associate Professor  
mldmhrst@iastate.edu

**IOWA STATE UNIVERSITY**<sup>122</sup>  
OF SCIENCE AND TECHNOLOGY

College of Family and  
Consumer Sciences  
Department of Textiles and Clothing  
1052 LeBaron Hall  
Ames, Iowa 50011-1120 U.S.A.  
515 294-2628  
FAX 515 294-6364

March 3, 1999

Dear consumer:

A few weeks ago we mailed you a survey on Body Image and Appearance Management of Older Consumers. As of today, we have not received your completed questionnaire. We truly value any contribution you can give to this research and hope you can return the questionnaire.

This study is designed to learn more about how older married consumers feel about the body during the aging process, and we are also studying how people dress, exercise, and diet their bodies to stay healthy and shape appearance. Very little research has been conducted in this area. Your responses will increase understanding of how people adjust to changes they experience during the aging process.

We are writing to you again because of the significance each questionnaire has to the completion of this study. All information will be kept completely confidential. Your name will not be attached in any way to the questionnaire after it is received in the mail. In addition, you may choose at any point not to complete the materials and to return them to me at no penalty to yourself.

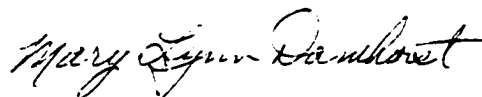
In the event that you did not receive the questionnaires or it has been misplaced, a replacement is enclosed. Please return the completed questionnaire within one week or as soon as possible. Postage will be paid by us, so please put the questionnaires in the envelope provided and mail it back. Your help in this study is a great contribution to this project.

If you have any questions, please feel free to call us, KeunYoung Oh, at 515-294-0948, or Dr. Mary Lynn Damhorst, at 515-294-9919. Or you may fax your questions to us at 515-294-6364. We appreciate very much your assistance.

Sincerely,



KeunYoung Oh  
Ph.D. Candidate  
kyoh@iastate.edu



Mary Lynn Damhorst, Ph.D.  
Associate Professor  
mldmhrst@iastate.edu

## **APPENDIX B: QUESTIONNAIRE**

No. \_\_\_\_\_

## **Body Image and Appearance Management of Older Consumers**

### **Questionnaire for HUSBAND (WIFE)**

- \* By answering these questions, you will help us understand what factors affect older consumers' feelings about the body and how they exercise, dress, and diet.
- \* Do not consult with your spouse. Your participation is voluntary, and you may decline to answer any questions you choose.
- \* I think you'll find the questions interesting, please give them careful thought. Thank you for your participation.

## Section 1

For each exercise you do, please tell us about your exercise pattern.

	1. How often do you exercise a week?				2. How long do you exercise each time?			
	Never	Once	2-3 times	4+ times	(minutes)			
					1-14	15-29	30-44	45+
Brisk walking (10+ mins in duration) --	1	2	3	4	1	2	3	4
Jogging -----	1	2	3	4	1	2	3	4
Stretching, yoga, Pool exercise -----	1	2	3	4	1	2	3	4
Aerobics -----	1	2	3	4	1	2	3	4
Bicycling, exercycle ----	1	2	3	4	1	2	3	4
Swimming -----	1	2	3	4	1	2	3	4
Dancing (mod/fast); line, tap, ballroom, etc.	1	2	3	4	1	2	3	4
Bowling -----	1	2	3	4	1	2	3	4
Golf -----	1	2	3	4	1	2	3	4
Racquet sports: tennis, racquet ball -----	1	2	3	4	1	2	3	4
Billiards -----	1	2	3	4	1	2	3	4
Others: -----	1	2	3	4	1	2	3	4

If you exercise, please respond to the items below as honestly as possible.  
If you never exercise, please go to Section 2 on page 3.

## 3. Why do you exercise?

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
To be slim -----	1	2	3	4	5
To improve my muscle tone ---	1	2	3	4	5
To improve my appearance ----	1	2	3	4	5
To redistribute my weight -----	1	2	3	4	5
To meet new people -----	1	2	3	4	5
To lose weight -----	1	2	3	4	5

## Why do you exercise? (continued)

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
To improve my strength ----- 1	1	2	3	4	5
To cope with stress, anxiety ---- 1	1	2	3	4	5
To improve my overall health --- 1	1	2	3	4	5
To be sexually desirable ----- 1	1	2	3	4	5
To socialize with friends ----- 1	1	2	3	4	5
To have fun ----- 1	1	2	3	4	5
To maintain my current weight - 1	1	2	3	4	5
To increase my energy level ---- 1	1	2	3	4	5
To improve my overall body shape ----- 1	1	2	3	4	5
To improve my endurance or stamina ----- 1	1	2	3	4	5
To increase my resistance to illness and disease ----- 1	1	2	3	4	5
To cope with sadness, depression ----- 1	1	2	3	4	5
To improve my cardiovascular fitness ----- 1	1	2	3	4	5
To improve my mood ----- 1	1	2	3	4	5
To do what is socially expected 1	1	2	3	4	5
To be attractive to members of the opposite sex ----- 1	1	2	3	4	5
To alter a specific area of my body ----- 1	1	2	3	4	5
To improve my flexibility or coordination ----- 1	1	2	3	4	5
To maintain my physical well-being ----- 1	1	2	3	4	5

**Section 2**

The following questionnaire contains a series of statements about  
how you might think, feel, or behave.

1. Please indicate how physically attractive you see yourself.

1	2	3	4	5
Extremely Unattractive		About Average		Extremely Attractive

Please indicate how physically attractive you see your spouse.

1	2	3	4	5
Extremely Unattractive		About Average		Extremely Attractive

Please indicate how physically attractive your spouse thinks that you are.

1	2	3	4	5
Extremely Unattractive		About Average		Extremely Attractive

2. Please indicate how pleased you are with your physical appearance.

1	2	3	4	5
Extremely Displeased		Neither Pleased nor Displeased		Extremely Pleased

Please indicate how pleased you are with your spouse's physical appearance.

1	2	3	4	5
Extremely Displeased		Neither Pleased nor Displeased		Extremely Pleased

Please indicate how pleased your spouse is with your physical appearance.

1	2	3	4	5
Extremely Displeased		Neither Pleased nor Displeased		Extremely Pleased



3. Please indicate how you think you are.

1	2	3	4	5
Extremely	Somewhat	Normal	Somewhat	Extremely
Underweight	Underweight	Weight	Overweight	Overweight

Please indicate how you think your spouse is.

1	2	3	4	5
Extremely	Somewhat	Normal	Somewhat	Extremely
Underweight	Underweight	Weight	Overweight	Overweight

Please indicate how your spouse thinks you are.

1	2	3	4	5
Extremely	Somewhat	Normal	Somewhat	Extremely
Underweight	Underweight	Weight	Overweight	Overweight

4. How definitely do you agree or disagree that...

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My body is sexually appealing. ---- 1	2	3	4	5	
I like the way my clothes fit me. --- 1	2	3	4	5	
Before going out in public, I always notice how I look. ----- 1	2	3	4	5	
I am careful to buy clothes that will make me look my best. ----- 1	2	3	4	5	
I like my looks just the way they are. ----- 1	2	3	4	5	
I check my appearance in a mirror whenever I can. ----- 1	2	3	4	5	
Before going out, I usually spend a lot of time getting ready. ----- 1	2	3	4	5	
Most people would consider me good-looking. ----- 1	2	3	4	5	
It is usually important that I always look good. ----- 1	2	3	4	5	
I use very few grooming products. ----- 1	2	3	4	5	

## 4. How definitely do you agree or disagree that...

	<b>Strongly Disagree</b>	<b>Disagree</b>	<b>Neutral</b>	<b>Agree</b>	<b>Strongly Agree</b>
I like the way I look without my clothes on. ----- 1	1	2	3	4	5
I am self-conscious if my grooming isn't right. ----- 1	1	2	3	4	5
I usually wear whatever is handy without caring how it looks. ---- 1	1	2	3	4	5
I don't care what people think about my appearance. ----- 1	1	2	3	4	5
I take special care with my hair grooming. ----- 1	1	2	3	4	5
I dislike my physique. ----- 1	1	2	3	4	5
I never think about my appearance. ----- 1	1	2	3	4	5
I am always trying to improve my physical appearance. ----- 1	1	2	3	4	5

## 5. How much are you satisfied with...

	<b>Very Dissatisfied</b>		<b>Neutral</b>		<b>Very Satisfied</b>
Face (facial features, complexion) -- 1	1	2	3	4	5
Hair (color, thickness, texture) ----- 1	1	2	3	4	5
Lower torso (buttocks, hips, thighs, legs) ----- 1	1	2	3	4	5
Mid torso (waist, stomach). ----- 1	1	2	3	4	5
Upper torso (chest or breasts, shoulders, arms) ----- 1	1	2	3	4	5
Muscle tone ----- 1	1	2	3	4	5
Weight ----- 1	1	2	3	4	5
Height ----- 1	1	2	3	4	5

6. Please circle the age group you feel you really belong to: twenties, thirties, forties, fifties, sixties, seventies, or eighties.

**Age Groups**

- My **interests** are mostly  
those of someone in their ----- 20s 30s 40s 50s 60s 70s 80s
- I **feel** as though I am in my ----- 20s 30s 40s 50s 60s 70s 80s
- I **look** as though I am in my ----- 20s 30s 40s 50s 60s 70s 80s
- I **do** most things as if I am in my -- 20s 30s 40s 50s 60s 70s 80s

**Section 3**

Please indicate your feeling about relationship with your spouse.

1. How satisfied are you with...

	<b>Extremely Dissatisfied</b>		<b>Neutral</b>		<b>Extremely Satisfied</b>
Your marriage -----	1	2	3	4	5
Your wife (husband) as a spouse ----	1	2	3	4	5
Your relationship with your spouse --	1	2	3	4	5

2. How strongly do you agree that ...

	<b>Strongly Disagree</b>		<b>Neutral</b>		<b>Strongly Agree</b>
We have a good marriage. -----	1	2	3	4	5
My relationship with my partner is very stable. -----	1	2	3	4	5
Our marriage is strong. -----	1	2	3	4	5
My relationship with my partner makes me happy. -----	1	2	3	4	5
I really feel like part of a team with my partner. -----	1	2	3	4	5

The numbers on the following line present different degrees of happiness in your relationship. **4, "happy" represents the degree of happiness of most relationships.** Please circle the number which best describes the degree of happiness, all things considered, of your relationship.

1	2	3	4	5	6	7
Extremely	Fairly	A little	Happy	Very	Extremely	Perfect
Unhappy	Unhappy			Unhappy	Happy	Happy

3. How often have you...

	Not in the last year	Within the last year	Within the last 6 months	Within the last 3 months
Ever seriously suggested the idea of divorce. -----	1	2	3	4
Discussed divorce or separation with a close friend. -----	1	2	3	4
Ever thought your marriage might be in trouble. -----	1	2	3	4
Talked with your spouse about consulting an attorney about a possible divorce or separation --	1	2	3	4
Recalled that the thought of getting a divorce or separation crossed your mind. -----	1	2	3	4

#### Section 4

Please circle the number that best indicates how you have been feeling.

1. How have you been feeling during the past week including today?

	Not at all	A little	Moderately	Quite A bit	Extremely
Active -----	1	2	3	4	5
Energetic -----	1	2	3	4	5
Full of pep -----	1	2	3	4	5
Lively -----	1	2	3	4	5
Carefree -----	1	2	3	4	5

How have you been feeling during the past week including today? (continued)

	Not at all	A little	Moderately	Quite A bit	Extremely
Vigorous -----	1	2	3	4	5
Forgetful -----	1	2	3	4	5
Uncertain about things -----	1	2	3	4	5
Bewildered -----	1	2	3	4	5
Confused -----	1	2	3	4	5
Unable to concentrate -----	1	2	3	4	5
Furious -----	1	2	3	4	5
Annoyed -----	1	2	3	4	5
Bitter -----	1	2	3	4	5
Grouchy -----	1	2	3	4	5
Angry -----	1	2	3	4	5
Peeved -----	1	2	3	4	5
Resentful -----	1	2	3	4	5
On edge -----	1	2	3	4	5
Tense -----	1	2	3	4	5
Nervous -----	1	2	3	4	5
Uneasy -----	1	2	3	4	5
Anxious -----	1	2	3	4	5
Restless -----	1	2	3	4	5
Exhausted -----	1	2	3	4	5
Fatigued -----	1	2	3	4	5
Weary -----	1	2	3	4	5
Worn-out -----	1	2	3	4	5
Bushed -----	1	2	3	4	5
Unhappy -----	1	2	3	4	5
Sad -----	1	2	3	4	5
Miserable -----	1	2	3	4	5
Worthless -----	1	2	3	4	5

How have you been feeling during the past week including today?  
(continued)

	Not at all	A little	Moderately	Quite A bit	Extremely
Hopeless -----	1	2	3	4	5
Helpless -----	1	2	3	4	5
Discouraged -----	1	2	3	4	5
Blue -----	1	2	3	4	5

2. How many times in the last six months have you seen a doctor because of a health problem?

\_\_\_None    \_\_\_Once    \_\_\_Less than 5 times    \_\_\_5 to 10 times    \_\_\_More than 10 times

3. How many days in the last six months were you so sick that you were unable to carry out your usual activities?

\_\_\_None    \_\_\_Once    \_\_\_Less than 5 times    \_\_\_5 to 10 times    \_\_\_More than 10 times

4. Please rate your current overall health on the following scale.  
On a scale of 0 to 10, where **10** indicates **Excellent health**, **5** indicates **Average health**, and **0** indicates **Poor health**. Please circle the number which best represents your health.

Very Poor						Average Health						Excellent Health
0	1	2	3	4	5	6	7	8	9	10		

5. How would you compare your overall health with other men (women) your age?

\_\_\_Much Worse    \_\_\_Slightly Worse    \_\_\_Same    \_\_\_Slightly Better    \_\_\_Much Better

## Section 5

Please answer the following questions based on your feeling  
and behavior during the past 2 weeks.

Within the past 2 weeks...

	Never	Hardly Ever	Some- times	Often	Always
I have felt fat. -----	1	2	3	4	5
I have planned out what I am allowed to eat for the day. -----	1	2	3	4	5
I have tried to reduce my calorie consumption for weight control.-	1	2	3	4	5
I have restricted my calorie intake to help me lose weight. -----	1	2	3	4	5
I have felt guilty about something I ate. -----	1	2	3	4	5
I am skipping meals to help me lose weight. -----	1	2	3	4	5
I have been dieting to help control my weight. -----	1	2	3	4	5
I have made food choices based on how I feel about my weight. ----	1	2	3	4	5
I have believed that dieting is good for my health. -----	1	2	3	4	5
I have used nutritional labels on foods to determine if I eat a certain food or not. ----	1	2	3	4	5
I have eaten foods that I don't prefer, just because they are low in calories. -----	1	2	3	4	5
I'd have eaten much differently if I had not been concerned about my weight. -----	1	2	3	4	5

## Section 6

Please check practices you have done in the last 12 months  
and will do in the next 12 months (Check all that apply).

**1. In the last 12 months,  
I have...**

- ☐ Colored or highlighted hair
- ☐ Worn a wig or toupee
- ☐ Received hair transplants or chemical to increase hair
- ☐ Used cosmetic to cover wrinkles
- ☐ Applied make-up to add color
- ☐ Used anti-aging skin products
- ☐ Used Retin-A or a chemical peel to remove wrinkles
- ☐ Worn sunblock or sunscreen with high SPF to ward off the sun's damaging rays
- ☐ Worn slenderizing or control undergarments
- ☐ Worn apparel with slenderizing style lines
- ☐ Taken anti-aging drugs, hormones, or vitamins
- ☐ Had face-lift cosmetic surgery
- ☐ Had liposuction cosmetic surgery
- ☐ Had tummy tuck cosmetic surgery

**2. In the next 12 months,  
I will...**

- ☐ Color or highlight hair
- ☐ Wear a wig or toupee
- ☐ Receive hair transplants or chemical to increase hair
- ☐ Use cosmetic to cover wrinkles
- ☐ Apply make-up to add color
- ☐ Use anti-aging skin products
- ☐ Use Retin-A or a chemical peel to remove wrinkles
- ☐ Wear sunblock or sunscreen with high SPF to ward off the sun's damaging rays
- ☐ Wear slenderizing or control undergarments
- ☐ Wear apparel with slenderizing style lines
- ☐ Take anti-aging drugs, hormones, or vitamins
- ☐ Have face-lift cosmetic surgery
- ☐ Have liposuction cosmetic surgery
- ☐ Have tummy tuck cosmetic surgery



**Please tell us how much time and money you or your spouse spend on apparel.**

3. How much time do you spend on grooming while getting ready for a typical day? (including shaving, putting make-up, styling hair, dressing, etc.)

\_\_\_ 15 minutes or less  
 \_\_\_ 16 - 29 minutes  
 \_\_\_ 30 - 59 minutes  
 \_\_\_ 1 hour - Less than 2 hours  
 \_\_\_ 2 hours or more

4. How much time do you spend during a typical month on clothing shopping either with actual buying or looking for clothing? (including window shopping, going to a mall for fun, etc)

None   1   2   3   4   5   6   7   8   9   10+ Hours  
**Hours**

5. On average how much was spent on **your new apparel and shoes and apparel service during the last 12 months?** (i.e., dry cleaning, laundering, alteration, or shoe service)

___ \$50 or less	___ \$450 - \$599
___ \$51 - \$99	___ \$600 - \$749
___ \$100 - \$149	___ \$750 - \$999
___ \$150 - \$299	___ \$1,000 or more
___ \$300 - \$449	

6. On average how much was spent on **your spouse's new apparel and shoes and apparel service during the last 12 months?** (i.e., dry cleaning, laundering, alteration, or shoe service)

___ \$50 or less	___ \$450 - \$599
___ \$51 - \$99	___ \$600 - \$749
___ \$100 - \$149	___ \$750 - \$999
___ \$150 - \$299	___ \$1,000 or more
___ \$300 - \$449	

## Section 7

The following questions are about your demographic characteristics.

1. Indicate the year you were born. \_\_\_\_\_
2. Indicate your sex.    \_\_\_Male        \_\_\_Female
3. How many years have you lived with your spouse?

4. What changes in your body have you noticed recently?

*Changes in physical appearance* (Check all that apply)

- \_\_\_ Posture (less erect)
- \_\_\_ Decrease of height
- \_\_\_ Weight gain
- \_\_\_ Weight loss
- \_\_\_ Face (wrinkles, sagging, moles)
- \_\_\_ Hair (thinning, graying, balding)
- \_\_\_ Skin (creases, furrows, sagging, loss of firmness and resiliency)
- \_\_\_ Body composition (increase in body fat and loss of lean body)

*Decrease/loss of function* (Check all that apply)

- \_\_\_ Hearing
- \_\_\_ Eye sight
- \_\_\_ Breathing
- \_\_\_ Strength or endurance
- \_\_\_ Joint, flexibility, or balance
- \_\_\_ Constipation
- \_\_\_ Frequent or accident urination

*Others:* \_\_\_\_\_

5. How much have the changes in your body affected your feelings about yourself?

1	2	3	4	5
Not at all	A little	Moderately	Quite a bit	Extremely

6. **Twenty years ago**, how important to you was your own physical appearance or physical attractiveness?

1	2	3	4	5
Not at all	A little	Moderately	Quite a bit	Extremely

7. **Now**, how important to you is your own physical appearance or physical attractiveness?

1	2	3	4	5
Not at all	A little	Moderately	Quite a bit	Extremely

8. What is your present occupational status?

☐ Working full-time, paid  
☐ Working part-time, paid  
☐ Working full-time, unpaid  
☐ Working part-time, unpaid  
☐ Retired  
☐ Unemployed, looking for a job  
☐ Other (Specify \_\_\_\_\_ )

9. If retired, how long have you been retired? \_\_\_\_\_ Years

10. Past or present occupation(s).

\_\_\_\_\_

\_\_\_\_\_

11. What is your race or ethnic identity?

☐ White or European Ethnicity  
☐ Black or African American  
☐ Hispanic or Latino  
☐ Asian  
☐ Native American  
☐ Native Hawaiian or Pacific Islander  
☐ Other (Specify \_\_\_\_\_ )

12. What is the highest level of education you have?  
(Check only **one**)

☐ Some high school or less  
☐ Graduated high school or equivalent  
☐ Some college / vocational or technical school  
☐ Graduated college  
☐ Some post graduate or professional school  
☐ Received a graduate or professional degree

13. Estimate your yearly gross household income from all sources before taxes.

<input type="checkbox"/> Under \$5,000	<input type="checkbox"/> \$50,000 - \$74,999
<input type="checkbox"/> \$5,000 - \$9,999	<input type="checkbox"/> \$75,000 - \$99,999
<input type="checkbox"/> \$10,000 - \$14,999	<input type="checkbox"/> \$100,000 - \$149,999
<input type="checkbox"/> \$15,000 - \$24,999	<input type="checkbox"/> \$150,000 - \$199,999
<input type="checkbox"/> \$25,000 - \$34,999	<input type="checkbox"/> \$200,000 or over
<input type="checkbox"/> \$35,000 - \$49,999	

14. Is there anything that we have not covered that you would like to add?



- \* Place both your own and your spouse's questionnaires in the envelope.
- \* The return envelope is postage paid, so drop it in the mail within a week or as soon as possible.

**THANK YOU VERY MUCH FOR YOUR PARTICIPATION.**

If you would like a report of findings from this study, check the appropriate box.

☐ Yes, please send me the report.

☐ No

## **APPENDIX C: CODING GUIDE**

<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
ID	1	1-3	ID number
HQ1_1	4		<b>Section 1</b> How often do you exercise a week? Brisk walking (10+ mins in duration) 1 = Never 2 = Once 1 = missing 3 = 2-3 times 4 = 4+times
HQ1_2	5		Jogging
HQ1_3	6		Stretching, yoga, pool exercise
HQ1_4	7		Aerobics
HQ1_5	8		Bicycling, exercycle
HQ1_6	9		Swimming
HQ1_7	10		Dancing
HQ1_8	11		Bowling
HQ1_9	12		Golf
HQ1_10	13		Racquet sports
HQ1_11	14		Billiards
HQ1-12	15		Others
HQ2_1	16		<b>How long do you exercise each time?</b> Brisk walking (10+ mins in duration) 1 = 1-14 2 = 15-29 . = missing 3 = 30-44 4 = 45+
HQ2_2	17		Jogging
HQ2_3	18		Stretching, yoga, pool exercise
HQ2_4	19		Aerobics
HQ2_5	20		Bicycling, exercycle
HQ2_6	21		Swimming
HQ2_7	22		Dancing
HQ2_8	23		Bowling
HQ2_9	24		Golf
HQ2_10	25		Racquet sports
HQ2_11	26		Billiards
HQ2-12	27		Others
HQ3			<b>Why do you exercise?</b> 1 = Strongly disagree 2 = Disagree 3 = Neutral 4 = Agree 5 = Strongly agree . = missing
HQ3_1	28		To be slim
HQ3_2	39		To improve my muscle tone

<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
------------------	-------------	---------------	------------------

HQ3_3	30		To improve my appearance
HQ3_4	31		To redistribute my weight
HQ3_5	32		To meet new people
HQ3_6	33		To lose weight
HQ3_7	34		To improve my strength
HQ3_8	35		To cope with stress, anxiety
HQ3_9	36		To improve my overall health
HQ3_10	37		To be sexually desirable
HQ3_11	38		To socialize with friends
HQ3_12	39		To have fun
HQ3_13	40		To maintain my current weight
HQ3_14	41		To increase my energy level
HQ3_15	42		To improve my overall body shape
HQ3_16	43		To improve my endurance or stamina
HQ3_17	44		To increase my resistance to illness and disease
HQ3_18	45		To cope with sadness, depression
HQ3_19	46		To improve my cardiovascular fitness
HQ3_20	47		To improve my mood
HQ3_21	48		To do what is socially expected
HQ3_22	49		To be attractive to members of the opposite sex
HQ3_23	50		To alter a specific area of my body
HQ3_24	51		To improve my flexibility or coordination
HQ3_25	52		To maintain my physical well-being

**Section 2**

<b>HQ4</b>		1 = Extremely unattractive	4 = Attractive
		2 = Unattractive	5 = Extremely attractive
		3 = About average	. = missing
HQ4_1	53	Please indicate how physically attractive you see yourself.	
HQ4_2	54	Please indicate how physically attractive you see your spouse.	
HQ4_3	55	Please indicate how physically attractive your spouse thinks that you are.	

<b>HQ5</b>		1 = Extremely displeased	4 = Pleased
		2 = Displeased	5 = Extremely pleased
		3 = neither pleased nor displeased	. = missing
HQ5_1	56	Please indicate how pleased you are with your physical appearance.	
HQ5_2	57	Please indicate how pleased you are with your spouse's physical appearance..	
HQ5_3	58	Please indicate how pleased your spouse is with your physical appearance.	





<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
------------------	-------------	---------------	------------------

<b>HQ9</b>			<b>Please circle the age group you feel you really belong to:</b>
------------	--	--	---

1 = 20s	5 = 60
2 = 30s	6 = 70s
3 = 40s	7 = 80s
4 = 50s	. = missing

HQ9_1	88	My interests are mostly those of someone in their
HQ9_2	89	I feel as though I am in my
HQ9_3	90	I look as though I am in my
HQ9_4	91	I do most things as if I am in my

		<b>Section 3</b>
--	--	------------------

<b>HQ10</b>		<b>How satisfied are you with...</b>
-------------	--	--------------------------------------

1 = Extremely dissatisfied	4 = Satisfied
2 = Dissatisfied	5 = Extremely satisfied
3 = Neutral	. = missing

HQ10_1	92	Your marriage
HQ10_2	93	Your wife as a spouse
HQ10_3	94	Your relationship with your spouse

<b>HQ11</b>		<b>How strongly do you agree that...</b>
-------------	--	--

1 = Extremely dissatisfied	4 = Satisfied
2 = Dissatisfied	5 = Extremely satisfied
3 = Neutral	. = missing

HQ11_1	95	We have a good marriage.
HQ11_2	96	My relationship with my partner is very stable.
HQ11_3	97	Our marriage is strong.
HQ11_4	98	My relationship with my partner makes me happy.
HQ11_5	99	I really feel like part of a team with my partner.
HQ11_6	100	The numbers on the following line present different degrees of happiness in your relationship. 4, "happy" represents the degree of happiness of most relationships. Please circle the number which best describes the degree of happiness, all things considered, of your relationship.

1 = Extremely unhappy	5 = Very happy
2 = Fairly unhappy	6 = Extremely happy
3 = A little unhappy	7 = Perfect
4 = Happy	. = missing

<b>HQ12</b>		<b>How often have you...</b>
-------------	--	------------------------------

1 = Not in the last year	3 = Within the last 6 months
2 = Within the last year	4 = Within the last 3 months
. = missing	

**Variables   Line   Column   Questions**

HQ12_1	101	Ever seriously suggested the idea of divorce.
HQ12_2	102	Discussed divorce or separation with a close friend.
HQ12_3	103	Ever thought your marriage might be in trouble.
HQ12_4	104	Talked with your spouse about consulting an attorney about a possible divorce or separation.
HQ12_5	105	Recalled that the thought of getting a divorce or separation crossed your mind.

**Section 4**

**HQ13      How have you been feeling during the past week including today?**

1 = Not at all                      4 = Quite a bit  
 2 = A little                        5 = Extremely  
 3 = Moderately                  . = missing

HQ13_1	106	Active
HQ13_2	107	Energetic
HQ13_3	108	Full of pep
HQ13_4	109	Lively
HQ13_5	110	Carefree
HQ13_6	2    1	Vigorous
HQ13_7	2	Forgetful
HQ13_8	3	Uncertain about things
HQ13_9	4	Bewildered
HQ13_10	5	Confused
HQ13_11	6	Unable to concentrate
HQ13_12	7	Furious
HQ13_13	8	Annoyed
HQ13_14	9	Bitter
HQ13_15	10	Grouchy
HQ13_16	11	Angry
HQ13_17	12	Peeved
HQ13_18	13	Resentful
HQ13_19	14	On edge
HQ13_20	15	Tense
HQ13_21	16	Nervous
HQ13_22	17	Uneasy
HQ13_23	18	Anxious
HQ13_24	19	Restless
HQ13_25	20	Exhausted
HQ13_26	21	Fatigued
HQ13_27	22	Weary
HQ13_28	23	Worn-out

<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
HQ13_29	24		Bushed
HQ13_30	25		Unhappy
HQ13_31	26		Sad
HQ13_32	27		Miserable
HQ13_33	28		Worthless
HQ13_34	29		Hopeless
HQ13_35	20		Helpless
HQ13_36	31		Discouraged
HQ13_37	32		Blue
<b>HQ14_1</b>	33		How many times in the last six months have you seen a doctor because of a health problem? 1 = None 2 = once 3 = Less than 5 times 4 = 5 to 10 times 5 = More than 10 times . = missing
HQ14_2	34		How many days in the last six months were you so sick that you were unable to carry out your usual activities?
HQ14_3	35-36		Please rate your current overall health on the following scale. On a scale of 0 to 10, where 10 indicates Excellent health. 5 indicates Average health, and 0 indicates Poor health. Please circle the number which best represents your health. 00 = Very poor 01...05 = Average health 06...10 = Excellent health .. = missing
HQ14_4	37		How would you compare your overall health with other men your age? 1 = Much worse 2 = Slightly worse 3 = Same 4 = Slightly better 5 = Much better . = missing
<b>HQ15</b>			<b>Section 5</b> <b>Within the past 2 weeks...</b> 1 = Never 2 = Hardly ever 3 = Sometimes 4 = Often 5 = Always . = missing
HQ15_1	38		I have felt fat.
HQ15_2	39		I have planned out what I am allowed to eat for the day.
HQ15_3	40		I have tried to reduce my calorie consumption for weight control.
HQ15_4	41		I have restricted my calorie intake to help me lose weight.
HQ15_5	42		I have felt guilty about something I ate.
HQ15_6	43		I am skipping meals to help me lose weight.

<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
------------------	-------------	---------------	------------------

HQ15_7	44		I have been dieting to help control my weight.
HQ15_8	45		I have made food choices based on how I feel about my weight.
HQ15_9	46		I have believed that dieting is good for my health.
HQ15_10	47		I have used nutritional labels on foods to determine if I eat a certain food or not.
HQ15_11	48		I have eaten foods that I don't prefer, just because they are low in calories.
HQ15_12	49		I'd have eaten much differently if I had not been concerned about my weight.

### Section 6

#### HQ16

#### In the last 12 months, I have...

1 = Yes

0 = No

. = missing

HQ16_1	50		Colored or highlighted hair
HQ16_2	51		Worn a wig or toupee
HQ16_3	52		Received hair transplants or chemical to increase hair
HQ16_4	53		Used cosmetic to cover wrinkles
HQ16_5	54		Applied make-up to add color
HQ16_6	55		Used anti-aging skin products
HQ16_7	56		Used Retin-A or a chemical peel to remove wrinkles
HQ16_8	57		Worn sunblock or sunscreen with high SPF to ward off the sun's damaging rays
HQ16_9	58		Worn slenderizing or control undergarments
HQ16_10	59		Worn apparel with slenderizing style lines
HQ16_11	60		Taken anti-aging drugs, hormones, or vitamins
HQ16_12	61		Had face-lift cosmetic surgery
HQ16_13	62		Had liposuction cosmetic surgery
HQ16_14	63		Had tummy tuck cosmetic surgery

#### HQ17

#### In the next 12 months, I will...

1 = Yes

0 = No

. = missing

HQ17_1	64		Color or highlight hair
HQ17_2	65		Wear a wig or toupee
HQ17_3	66		Receive hair transplants or chemical to increase hair
HQ17_4	67		Use cosmetic to cover wrinkles
HQ17_5	68		Apply make-up to add color
HQ17_6	69		Use anti-aging skin products
HQ17_7	70		Use Retin-A or a chemical peel to remove wrinkles

<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
HQ17_8	71		Wear sunblock or sunscreen with high SPF to ward off the sun's damaging rays
HQ17_9	72		Wear slenderizing or control undergarments
HQ17_10	73		Wear apparel with slenderizing style lines
HQ17_11	74		Take anti-aging drugs, hormones, or vitamins
HQ17_12	75		Have face-lift cosmetic surgery
HQ17_13	76		Have liposuction cosmetic surgery
HQ17_14	77		Have tummy tuck cosmetic surgery
<b>HQ18_1</b>	<b>78</b>		How much time do you spend on grooming while getting ready for a typical day? (including shaving, putting make-up, styling hair, dressing, etc.) 1 = 15 minutes or less 2 = 16 - 29 minutes 3 = 30 - 59 minutes 4 = 1 hour - Less than 2 hours 5 = 2 hours or more . = missing
HQ18_2	79-80		How much time do you spend during a typical month on clothing shopping either with actual buying or looking for clothing? (including window shopping, going to a mall for fun, etc) 00 = None 01...10 hours .. = missing
HQ18_3	81		On average how much was spent on your new apparel and shoes and apparel service during the last 12 months? (i.e., dry cleaning, laundering, alteration, or shoe service) 1 = \$50 or less 2 = \$51 - \$99 3 = \$100 - \$149 4 = \$150 - \$299 5 = \$300 - \$449 6 = \$450 - \$599 7 = \$600 - \$749 8 = \$750 - \$999 9 = \$1,000 or more . = missing
HQ18_4	82		On average how much was spent on your spouse's new apparel and shoes and apparel service during the last 12 months? (i.e., dry cleaning, laundering, alteration, or shoe service)
			<b>Section 7</b>
HYEAR	83-86		The year you were born
HGENDER	87		Your sex 1 = Male 2 = Female
HMARYR	88-89		How many years have you lived with your spouse?

**Variables   Line   Column   Questions**

<b>HQ19</b>		<b>What changes in your body have you noticed recently?</b> 1 = Yes 0 = No
HQ19_1	90	<i>Changes in physical appearance</i> Posture (less erect)
HQ19_2	91	Decrease of height
HQ19_3	92	Weight gain
HQ19_4	93	Weight loss
HQ19_5	94	Face (wrinkles, sagging, moles)
HQ19_6	95	Hair (thinning, graying, balding)
HQ19_7	96	Skin (creases, furrows, sagging, loss of firmness and resiliency)
HQ19_8	97	Body composition (increase in body fat and loss of lean body)
HQ19_9	98	<i>Decrease/loss of function</i> Hearing
HQ19_10	99	Eye sight
HQ19_11	100	Breathing
HQ19_12	101	Strength or endurance
HQ19_13	102	Joint, flexibility, or balance
HQ19_14	103	Constipation
HQ19_15	104	Frequent or accident urination
HQ19_16	105	<i>Others</i>
HQ19_17	106	How much have the changes in your body affected your feelings about yourself? 1 = Not at all                      4 = Quite a bit 2 = A little                         5 = Extremely 3 = Moderately                    . = missing
HQ19_18	108	Twenty years ago, how important to you was your own physical appearance or physical attractiveness? 1 = Not at all                      4 = Quite a bit 2 = A little                         5 = Extremely 3 = Moderately                    . = missing
HQ19_18	108	Now, how important to you is your own physical appearance or physical attractiveness?
HOCCU	109	What is your present occupational status? 1 = Working full-time, paid 2 = Working part-time, paid 3 = Working full-time, unpaid 4 = Working part-time, unpaid 5 = Retired 6 = Unemployed, looking for a job 7 = Other (homemaker)           . = missing

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
HRET	110-111		If retired, how long have you been retired? _____ Years
HRACE	112		What is your race or ethnic identity? 1 = White or European Ethnicity 2 = Black or African American 3 = Hispanic or Latino 4 = Asian 5 = Native American 6 = Native Hawaiian or Pacific Islander 7 = Other . = missing
HEDU	113		What is the highest level of education you have? 1 = Some high school or less 2 = Graduated high school or equivalent 3 = Some college / vocational or technical school 4 = Graduated college 5 = Some post graduate or professional school 6 = Received a graduate or professional degree . = missing
HINCOME	114-115		Estimate your yearly gross household income from all sources before taxes. 1 = Under \$5,000 2 = \$5,000 - \$9,999 3 = \$10,000 - \$14,999 4 = \$15,000 - \$24,999 5 = \$25,000 - \$34,999 6 = \$35,000 - \$49,999 7 = \$50,000 - \$74,999 8 = \$75,000 - \$99,999 9 = \$100,000 - \$149,999 10 = \$150,000 - \$199,999 11 = \$200,000 or over .. = missing
STATUS	3	1-3	001 husband only 002 wife only 003 both husband and wife
WQ1_1	4		<b>Section 1</b> How often do you exercise a week? Brisk walking (10+ mins in duration) 1 = Never 2 = Once 3 = 2-3 times 4 = 4+times 1 = mising
WQ1_2	5		Jogging
WQ1_3	6		Stretching, yoga, pool exercise
WQ1_4	7		Aerobics



<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WQ1_5	8		Bicycling, exercycle
WQ1_6	9		Swimming
WQ1_7	10		Dancing
WQ1_8	11		Bowling
WQ1_9	12		Golf
WQ1_10	13		Racquet sports
WQ1_11	14		Billiards
WQ1-12	15		Others
<b>WQ2_1</b>	<b>16</b>		<b>How long do you exercise each time?</b> Brisk walking (10+ mins in duration) 1 = 1-14                                3 = 30-44 2 = 15-29                              4 = 45+ . = missing
WQ2_2	17		Jogging
WQ2_3	18		Stretching, yoga, pool exercise
WQ2_4	19		Aerobics
WQ2_5	20		Bicycling, exercycle
WQ2_6	21		Swimming
WQ2_7	22		Dancing
WQ2_8	23		Bowling
WQ2_9	24		Golf
WQ2_10	25		Racquet sports
WQ2_11	26		Billiards
WQ2-12	27		Others
<b>WQ3</b>			<b>Why do you exercise?</b> 1 = Strongly disagree                4 = Agree 2 = Disagree                          5 = Strongly agree 3 = Neutral                             . = missing
WQ3_1	28		To be slim
WQ3_2	39		To improve my muscle tone
WQ3_3	30		To improve my appearance
WQ3_4	31		To redistribute my weight
WQ3_5	32		To meet new people
WQ3_6	33		To lose weight
WQ3_7	34		To improve my strength
WQ3_8	35		To cope with stress, anxiety
WQ3_9	36		To improve my overall health
WQ3_10	37		To be sexually desirable
WQ3_11	38		To socialize with friends
WQ3_12	39		To have fun

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
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WQ3_13	40	To maintain my current weight
WQ3_14	41	To increase my energy level
WQ3_15	42	To improve my overall body shape
WQ3_16	43	To improve my endurance or stamina
WQ3_17	44	To increase my resistance to illness and disease
WQ3_18	45	To cope with sadness, depression
WQ3_19	46	To improve my cardiovascular fitness
WQ3_20	47	To improve my mood
WQ3_21	48	To do what is socially expected
WQ3_22	49	To be attractive to members of the opposite sex
WQ3_23	50	To alter a specific area of my body
WQ3_24	51	To improve my flexibility or coordination
WQ3_25	52	To maintain my physical well-being

**Section 2**

<b>WQ4</b>	1 = Extremely unattractive      4 = Attractive	
	2 = Unattractive                      5 = Extremely attractive	
	3 = About average                      . = missing	
WQ4_1	53	Please indicate how physically attractive you see yourself.
WQ4_2	54	Please indicate how physically attractive you see your spouse.
WQ4_3	55	Please indicate how physically attractive your spouse thinks that you are.

<b>WQ5</b>	1 = Extremely displeased      4 = Pleased	
	2 = Displeased                      5 = Extremely pleased	
	3 = neither pleased                      . = missing nor displeased	
WQ5_1	56	Please indicate how pleased you are with your physical appearance.
WQ5_2	57	Please indicate how pleased you are with your spouse's physical appearance..
WQ5_3	58	Please indicate how pleased your spouse is with your physical appearance.

<b>WQ6</b>	1 = Extremely underweight      4 = Somewhat overweight	
	2 = Somewhat underweight      5 = Extremely overweight	
	3 = Normal weight                      . = missing	
WQ6_1	59	Please indicate how you think you are.
WQ6_2	60	Please indicate how you think your spouse is.
WQ6_3	61	Please indicate how your spouse thinks you are.

**Variables   Line   Column   Questions**

<b>WQ7</b>		<b>How definitely do you agree or disagree that...</b>	
		1 = Strongly disagree	4 = Agree
		2 = Disagree	5 = Strongly agree
		3 = Neutral	. = missing
WQ7_1	62	My body is sexually appealing.	
WQ7_2	63	I like the way my clothes fit me.	
WQ7_3	64	Before going out in public, I always notice how I look.	
WQ7_4	65	I am careful to buy clothes that will make me look my best.	
WQ7_5	66	I like my looks just the way they are.	
WQ7_6	67	I check my appearance in a mirror whenever I can.	
WQ7_7	68	Before going out, I usually spend a lot of time getting ready.	
WQ7_8	69	Most people would consider me good-looking.	
WQ7_9	70	It is usually important that I always look good.	
WQ7_10	71	I use very few grooming products.	
WQ7_11	72	I like the way I look without my clothes on.	
WQ7_12	73	I am self-conscious if my grooming isn't right.	
WQ7_13	74	I usually wear whatever is handy without caring how it looks.	
WQ7_14	75	I don't care what people think about my appearance.	
WQ7_15	76	I take special care with my hair grooming.	
WQ7_16	77	I dislike my physique.	
WQ7_17	78	I never think about my appearance.	
WQ7_18	79	I am always trying to improve my physical appearance.	
<b>WQ8</b>		<b>How much are you satisfied with...</b>	
		1 = Very dissatisfied	4 = Satisfied
		2 = Dissatisfied	5 = Very satisfied
		3 = Neutral	. = missing
WQ8_1	80	Face (facial features, complexion)	
WQ8_2	81	Hair (color, thickness, texture)	
WQ8_3	82	Lower torso (buttocks, hips, thighs, legs)	
WQ8_4	83	Mid torso (waist, stomach).	
WQ8_5	84	Upper torso (chest or breasts, shoulders, arms)	
WQ8_6	85	Muscle tone	
WQ8_7	86	Weight	
WQ8_8	87	Height	
<b>WQ9</b>		<b>Please circle the age group you feel you really belong to:</b>	
		1 = 20s	5 = 60
		2 = 30s	6 = 70s
		3 = 40s	7 = 80s
		4 = 50s	. = missing
WQ9_1	88	My interests are mostly those of someone in their	

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WQ9_2	89		I feel as though I am in my
WQ9_3	90		I look as though I am in my
WQ9_4	91		I do most things as if I am in my
<b>Section 3</b>			
<b>WQ10</b>			<b>How satisfied are you with...</b>
			1 = Extremely dissatisfied      4 = Satisfied
			2 = Dissatisfied                      5 = Extremely satisfied
			3 = Neutral                              . = missing
WQ10_1	92		Your marriage
WQ10_2	93		Your husband as a spouse
WQ10_3	94		Your relationship with your spouse
<b>WQ11</b>			<b>How strongly do you agree that...</b>
			1 = Extremely dissatisfied      4 = Satisfied
			2 = Dissatisfied                      5 = Extremely satisfied
			3 = Neutral                              . = missing
WQ11_1	95		We have a good marriage.
WQ11_2	96		My relationship with my partner is very stable.
WQ11_3	97		Our marriage is strong.
WQ11_4	98		My relationship with my partner makes me happy.
WQ11_5	99		I really feel like part of a team with my partner.
WQ11_6	100		The numbers on the following line present different degrees of happiness in your relationship. 4, "happy" represents the degree of happiness of most relationships. Please circle the number which best describes the degree of happiness, all things considered, of your relationship.
			1 = Extremely unhappy                      5 = Very happy
			2 = Fairly unhappy                              6 = Extremely happy
			3 = A little unhappy                              7 = Perfect
			4 = Happy    . = missing
<b>WQ12</b>			<b>How often have you...</b>
			1 = Not in the last year                      3 = Within the last 6 months
			2 = Within the last year                      4 = Within the last 3 months
			. = missing
WQ12_1	101		Ever seriously suggested the idea of divorce.
WQ12_2	102		Discussed divorce or separation with a close friend.
WQ12_3	103		Ever thought your marriage might be in trouble.
WQ12_4	104		Talked with your spouse about consulting an attorney about a possible divorce or separation.

**Variables   Line   Column   Questions**

WQ12\_5                      105            Recalled that the thought of getting a divorce or separation crossed your mind.

**WQ13**

**Section 4**

**How have you been feeling during the past week including today?**

1 = Not at all

4 = Quite a bit

2 = A little

5 = Extremely

3 = Moderately

. = missing

WQ13_1		106	Active
WQ13_2		107	Energetic
WQ13_3		108	Full of pep
WQ13_4		109	Lively
WQ13_5		110	Carefree
WQ13_6	4	1	Vigorous
WQ13_7		2	Forgetful
WQ13_8		3	Uncertain about things
WQ13_9		4	Bewildered
WQ13_10		5	Confused
WQ13_11		6	Unable to concentrate
WQ13_12		7	Furious
WQ13_13		8	Annoyed
WQ13_14		9	Bitter
WQ13_15		10	Grouchy
WQ13_16		11	Angry
WQ13_17		12	Peeved
WQ13_18		13	Resentful
WQ13_19		14	On edge
WQ13_20		15	Tense
WQ13_21		16	Nervous
WQ13_22		17	Uneasy
WQ13_23		18	Anxious
WQ13_24		19	Restless
WQ13_25		20	Exhausted
WQ13_26		21	Fatigued
WQ13_27		22	Weary
WQ13_28		23	Worn-out
WQ13_29		24	Bushed
WQ13_30		25	Unhappy
WQ13_31		26	Sad
WQ13_32		27	Miserable
WQ13_33		28	Worthless

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WQ13_34	29		Hopeless
WQ13_35	20		Helpless
WQ13_36	31		Discouraged
WQ13_37	32		Blue
WQ14_1	33		How many times in the last six months have you seen a doctor because of a health problem? 1 = None 2 = once 3 = Less than 5 times 4 = 5 to 10 times 5 = More than 10 times . = missing
WQ14_2	34		How many days in the last six months were you so sick that you were unable to carry out your usual activities?
WQ14_3	35-36		Please rate your current overall health on the following scale. On a scale of 0 to 10, where 10 indicates Excellent health. 5 indicates Average health, and 0 indicates Poor health. Please circle the number which best represents your health. 00 = Very poor 01...05 = Average health 06...10 = Excellent health .. = missing
WQ14_4	37		How would you compare your overall health with other women your age? 1 = Much worse 2 = Slightly worse 3 = Same 4 = Slightly better 5 = Much better . = missing
WQ15			<b>Section 5</b> <b>Within the past 2 weeks...</b> 1 = Never 2 = Hardly ever 3 = Sometimes 4 = Often 5 = Always . = missing
WQ15_1	38		I have felt fat.
WQ15_2	39		I have planned out what I am allowed to eat for the day.
WQ15_3	40		I have tried to reduce my calorie consumption for weight control.
WQ15_4	41		I have restricted my calorie intake to help me lose weight.
WQ15_5	42		I have felt guilty about something I ate.
WQ15_6	43		I am skipping meals to help me lose weight.
WQ15_7	44		I have been dieting to help control my weight.
WQ15_8	45		I have made food choices based on how I feel about my weight.
WQ15_9	46		I have believed that dieting is good for my health.
WQ15_10	47		I have used nutritional labels on foods to determine if I eat a certain food or not.

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WQ15_11	48		I have eaten foods that I don't prefer, just because they are low in calories.
WQ15_12	49		I'd have eaten much differently if I had not been concerned about my weight.
			<b>Section 6</b>
<b>WQ16</b>			<b>In the last 12 months, I have...</b>
			1 = Yes
			0 = No
			. = missing
WQ16_1	50		Colored or highlighted hair
WQ16_2	51		Worn a wig or toupee
WQ16_3	52		Received hair transplants or chemical to increase hair
WQ16_4	53		Used cosmetic to cover wrinkles
WQ16_5	54		Applied make-up to add color
WQ16_6	55		Used anti-aging skin products
WQ16_7	56		Used Retin-A or a chemical peel to remove wrinkles
WQ16_8	57		Worn sunblock or sunscreen with high SPF to ward off the sun's damaging rays
WQ16_9	58		Worn slenderizing or control undergarments
WQ16_10	59		Worn apparel with slenderizing style lines
WQ16_11	60		Taken anti-aging drugs, hormones, or vitamins
WQ16_12	61		Had face-lift cosmetic surgery
WQ16_13	62		Had liposuction cosmetic surgery
WQ16_14	63		Had tummy tuck cosmetic surgery
<b>WQ17</b>			<b>In the next 12 months, I will...</b>
			1 = Yes
			0 = No
			. = missing
WQ17_1	64		Color or highlight hair
WQ17_2	65		Wear a wig or toupee
WQ17_3	66		Receive hair transplants or chemical to increase hair
WQ17_4	67		Use cosmetic to cover wrinkles
WQ17_5	68		Apply make-up to add color
WQ17_6	69		Use anti-aging skin products
WQ17_7	70		Use Retin-A or a chemical peel to remove wrinkles
WQ17_8	71		Wear sunblock or sunscreen with high SPF to ward off the sun's damaging rays
WQ17_9	72		Wear slenderizing or control undergarments
WQ17_10	73		Wear apparel with slenderizing style lines
WQ17_11	74		Take anti-aging drugs, hormones, or vitamins

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WQ17_12	75		Have face-lift cosmetic surgery
WQ17_13	76		Have liposuction cosmetic surgery
WQ17_14	77		Have tummy tuck cosmetic surgery
<b>WQ18_1</b>	<b>78</b>		How much time do you spend on grooming while getting ready for a typical day? (including shaving, putting make-up, styling hair, dressing, etc.) 1 = 15 minutes or less 2 = 16 - 29 minutes 3 = 30 - 59 minutes 4 = 1 hour - Less than 2 hours 5 = 2 hours or more . = missing
WQ18_2	79-80		How much time do you spend during a typical month on clothing shopping either with actual buying or looking for clothing? (including window shopping, going to a mall for fun, etc) 00 = None 01...10 hours .. = missing
WQ18_3	81		On average how much was spent on your new apparel and shoes and apparel service during the last 12 months? (i.e., dry cleaning, laundering, alteration, or shoe service) 1 = \$50 or less 2 = \$51 - \$99 3 = \$100 - \$149 4 = \$150 - \$299 5 = \$300 - \$449 6 = \$450 - \$599 7 = \$600 - \$749 8 = \$750 - \$999 9 = \$1,000 or more . = missing
WQ18_4	82		On average how much was spent on your spouse's new apparel and shoes and apparel service during the last 12 months? (i.e., dry cleaning, laundering, alteration, or shoe service)
			<b>Section 7</b>
WYEAR	83-86		The year you were born
WGENDER	87		Your sex 1 = Male 2 = Female
WMARYR	88-89		How many years have you lived with your spouse?
<b>WQ19</b>			<b>What changes in your body have you noticed recently?</b> 1 = Yes 0 = No



<u>Variables</u>	<u>Line</u>	<u>Column</u>	<u>Questions</u>
WQ19_1	90		<i>Changes in physical appearance</i> Posture (less erect)
WQ19_2	91		Decrease of height
WQ19_3	92		Weight gain
WQ19_4	93		Weight loss
WQ19_5	94		Face (wrinkles, sagging, moles)
WQ19_6	95		Hair (thinning, graying, balding)
WQ19_7	96		Skin (creases, furrows, sagging, loss of firmness and resiliency)
WQ19_8	97		Body composition (increase in body fat and loss of lean body)
WQ19_9	98		<i>Decrease/loss of function</i> Hearing
WQ19_10	99		Eye sight
WQ19_11	100		Breathing
WQ19_12	101		Strength or endurance
WQ19_13	102		Joint, flexibility, or balance
WQ19_14	103		Constipation
WQ19_15	104		Frequent or accident urination
WQ19_16	105		<i>Others</i>
WQ19_17	106		How much have the changes in your body affected your feelings about yourself? 1 = Not at all                      4 = Quite a bit 2 = A little                        5 = Extremely 3 = Moderately                    . = missing
WQ19_18	108		Twenty years ago, how important to you was your own physical appearance or physical attractiveness? 1 = Not at all                      4 = Quite a bit 2 = A little                        5 = Extremely 3 = Moderately                    . = missing
WQ19_18	108		Now, how important to you is your own physical appearance or physical attractiveness?
WOCCU	109		What is your present occupational status? 1 = Working full-time, paid 2 = Working part-time, paid 3 = Working full-time, unpaid 4 = Working part-time, unpaid 5 = Retired 6 = Unemployed, looking for a job 7 = Other (homemaker)            . = missing

<b><u>Variables</u></b>	<b><u>Line</u></b>	<b><u>Column</u></b>	<b><u>Questions</u></b>
WRET	110-111		If retired, how long have you been retired? _____ Years
WRACE	112		What is your race or ethnic identity? 1 = White or European Ethnicity 2 = Black or African American 3 = Hispanic or Latino 4 = Asian 5 = Native American 6 = Native Hawaiian or Pacific Islander 7 = Other . = missing
WEDU	113		What is the highest level of education you have? 1 = Some high school or less 2 = Graduated high school or equivalent 3 = Some college / vocational or technical school 4 = Graduated college 5 = Some post graduate or professional school 6 = Received a graduate or professional degree . = missing
WINCOME	114-115		Estimate your yearly gross household income from all sources before taxes. 1 = Under \$5,000 2 = \$5,000 - \$9,999 3 = \$10,000 - \$14,999 4 = \$15,000 - \$24,999 5 = \$25,000 - \$34,999 6 = \$35,000 - \$49,999 7 = \$50,000 - \$74,999 8 = \$75,000 - \$99,999 9 = \$100,000 - \$149,999 10 = \$150,000 - \$199,999 11 = \$200,000 or over .. = missing

**APPENDIX D: HUMAN SUBJECT REVIEW**

# Information for Review of Research Involving Human Subjects

Iowa State University

(Please type and use the attached instructions for completing this form)

1. Title of Project Antecedents and consequences of body image: Influences on appearance management among older consumers

2. I agree to provide the proper surveillance of this project to insure that the rights and welfare of the human subjects are protected. I will report any adverse reactions to the committee. Additions to or changes in research procedures after the project has been approved will be submitted to the committee for review. I agree to request renewal of approval for any project continuing more than one year.

KeunYoung Oh

Typed name of principal investigator

November 4, 1998

Date

Keunyoung Oh

Signature of principal investigator

Textiles and Clothing

Department

1052 LeBaron Hall

Campus address

294-0948

Phone number to report results

3. Signatures of other investigators      Date      Relationship to principal investigator

Mary Lynn Dambart

11/6/98

Major Advisor

4. Principal investigator(s) (check all that apply)

☒ Faculty

☒ Staff

☒ Graduate student

☐ Undergraduate student

5. Project (check all that apply)

☒ Research

☒ Thesis or dissertation

☐ Class project

☐ Independent Study (490, 590, Honors project)

6. Number of subjects (complete all that apply)

300 # adults, non-students

\_\_\_\_\_ # ISU students

\_\_\_\_\_ # minors under 14

\_\_\_\_\_ other (explain)

\_\_\_\_\_ # minors 14 - 17

7. Brief description of proposed research involving human subjects: (See instructions, item 7. Use an additional page if needed.)

The main purpose of this study is to investigate how body image changes in the aging process. Emotional, social, and physical factors such as aging-related physical changes, relationship with spouses, cognitive age, daily stresses or hassles, ways of coping, and perceived health will be examined with regard to their influences on formation of body image in the aging process. Also to be examined in this study is how older consumers respond to bodily changes and changes in body image by engaging in various appearance management practices. Exercising, dieting, clothing consumption, and use of anti-aging products will be examined as appearance management practices performed by older consumers.

A self-administered questionnaire will be used to collect data. The questionnaire consists of several questions containing scaled items that measure the variables mentioned above. Upon successful pretesting of the questionnaire with a small group of elderly consumers, the questionnaire will be mailed to 150 older couples whose names and addresses are acquired through proper contact with managers of retirement communities in mid-size cities in Iowa.

To complete the questionnaire will take approximately 30–40 minutes. Potential subjects are married couples who are 65 years old or older, active, healthy, and are not confined to nursing homes or institutions.

(Please do not send research, thesis, or dissertation proposals.)

8. Informed Consent: ☐ Signed informed consent will be obtained. (Attach a copy of your form.)  
☐ Modified informed consent will be obtained. (See instructions, item 8.)  
☐ Not applicable to this project.
9. Confidentiality of Data: Describe below the methods you will use to ensure the confidentiality of data obtained. (See instructions, item 9.)

No personal identifiers will be used in the data collection procedures. The list of names and addresses will be used only to send the questionnaire. After the data is collected, participants' names and addresses will be destroyed. There will be no way that participants can be linked back to their answers. Participants' names and addresses provided voluntarily on the last page of the questionnaire will be removed before data analysis. All the questionnaires will be coded by numbers for analytical purposes only.

10. What risks or discomfort will be part of the study? Will subjects in the research be placed at risk or incur discomfort? Describe any risks to the subjects and precautions that will be taken to minimize them. (The concept of risk goes beyond physical risk and includes risks to subjects' dignity and self-respect as well as psychological or emotional risk. See instructions, item 10.)

No physical and mental discomfort is expected to occur during the data collection procedures. Participants may discontinue participation anytime during answering questions if they perceive any type of discomfort.

11. CHECK ALL of the following that apply to your research:
- ☐ A. Medical clearance necessary before subjects can participate
  - ☐ B. Administration of substances (foods, drugs, etc.) to subjects
  - ☐ C. Physical exercise or conditioning for subjects
  - ☐ D. Samples (blood, tissue, etc.) from subjects
  - ☐ E. Administration of infectious agents or recombinant DNA
  - ☐ F. Deception of subjects
  - ☐ G. Subjects under 14 years of age and/or ☐ Subjects 14 - 17 years of age
  - ☐ H. Subjects in institutions (nursing homes, prisons, etc.)
  - ☐ I. Research must be approved by another institution or agency (Attach letters of approval)

If you checked any of the items in 11, please complete the following in the space below (include any attachments):

- Items A–E Describe the procedures and note the proposed safety precautions.
- Items D–E The principal investigator should send a copy of this form to Environmental Health and Safety, 118 Agronomy Lab for review.
- Item F Describe how subjects will be deceived; justify the deception; indicate the debriefing procedure, including the timing and information to be presented to subjects.
- Item G For subjects under the age of 14, indicate how informed consent will be obtained from parents or legally authorized representatives as well as from subjects.
- Items H–I Specify the agency or institution that must approve the project. If subjects in any outside agency or institution are involved, approval must be obtained prior to beginning the research, and the letter of approval should be filed.

Last name of Principal Investigator

OH

**Checklist for Attachments and Time Schedule**

The following are attached (please check):

12. ☒ Letter or written statement to subjects indicating clearly:

- a) the purpose of the research
- b) the use of any identifier codes (names, #'s), how they will be used, and when they will be removed (see item 17)
- c) an estimate of time needed for participation in the research
- d) if applicable, the location of the research activity
- e) how you will ensure confidentiality
- f) in a longitudinal study, when and how you will contact subjects later
- g) that participation is voluntary; nonparticipation will not affect evaluations of the subject

13. ☒ Signed consent form (if applicable)14. ☒ Letter of approval for research from cooperating organizations or institutions (if applicable)15. ☒ Data-gathering instruments

## 16. Anticipated dates for contact with subjects:

First contact

Last contact

November 20, 1998  
Month/Day/Year

February 20, 1999  
Month/Day/Year


## 17. If applicable: anticipated date that identifiers will be removed from completed survey instruments and/or audio or visual tapes will be erased:

February 20, 1999  
Month/Day/Year

## 18. Signature of Departmental Executive Officer

Date

Department or Administrative Unit

 11/9/98 Int'l - Clothing

## 19. Decision of the University Human Subjects Review Committee:

☒ Project approved      ☐ Project not approved      ☐ No action required

Patricia M. Keith  
Name of Committee Chairperson

Date

Signature of Committee Chairperson

11-23-98 PMK/H

*Approved with the understanding permission letters will be submitted.*

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